جامعة الرازي
Al-Razi University

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برامج الدراسات العليا

ماجستير صحة عامة

ماجستير وبائيات

ماجستير إدارة أعمال

ماجستير تمريض الحالات الحرجة

ماجستير تقنية معلومات

ماجستير محاسبة

International Conference of Modern Trends in
Information and Communication Technology Industry
(MTICTI) 2021

2021
MTICTI

R U
جامعة الرازي
AL-RAZI UNIVERSITY

المؤتمر الدولي الأول للاتجاهات الحديثة في صناعة تقنية المعلومات والاتصالات

International Conference of Modern Trends in ICT Industry

MTICTI-2021

تحت شعار: نحو الريادة في صناعات تقنية المعلومات والاتصالات
مواكبة لتوجهات الرؤية الوطنية لبناء الدولة اليمنية الحديثة

برعاية دولة الأستاذ دكتور / عبدالعزيز صالح بن حبتور

رئيس مجلس الوزراء - رئيس المجلس الأعلى للتعليم العالي

المنظمون

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بالتعاون مع

IEEE
Yemen Subsection

General Investment Authority

نقابة تكنولوجيا المعلومات والاتصالات | معهد مهندسي الكهرباء والالكترونيات | الهيئة العليا للعلوم والتكنولوجيا والابتكار | الهيئة العامة للاستثمار | وزارة الصناعة والتجارة | وزارة الاتصالات وتقنية المعلومات | وزارة التعليم العالي والبحث العلمي

الرعاة

الإتصالات اليمنية
Yemen Telecom

سبأفون
SABAFON

Yemen Mobile
يمن موبايل
معنا .. إتصالك أسهل

MTN

يمن سوفت
YEMENSOFT

واي

إبداع سوفت للأنظمة الخاصة
EBDA3 SOFT FOR SPECIAL SYSTEMS

البريد اليمني
Yemen Post

تيليمن
TeleYemen

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The Board of Trustees of Al-Razi University Message

Mr. Tariq Al-Nehmi

Chairman of the Board of Trustees of Al-Razi University

Proceeding from the vision of Al-Razi University to be among the top five national universities distinguished by the quality of higher education, scientific research and community service, and an embodiment of its pioneering role in translating the aspirations of the national vision to build the modern Yemeni state. In it, there is a need to prepare scientifically and research qualified cadres, in modern qualitative disciplines.

Therefore, we at Al-Razi University took the initiative to open qualitative technical Programs that are considered the programs of the future, such as cyber security and artificial intelligence.

The university seeks to open other new programs such as the Internet of Things, electronic governance, cloud computing, and others.

In view of our reality, it is no longer acceptable to stand as consumers of information and communication technology services, to be satisfied with science (only) by acquiring modern computers (and mobile phone devices), and we receive software and ready-made technical solutions without participating in their production, so that our peoples turn into slaves to those who possess the secrets of modern technology. and communications in the world.

(We are very confident) that the outcomes of the conference will help unify the joint national efforts to achieve the development goals of the information and communication technology industry in Yemen, and in a way that contributes to progress towards the information and knowledge society, acquiring the components of the digital economy and bridging the digital divide between Yemeni society and other advanced societies.

I take this as an opportunity to call for investment in the information and communications technology industry in Yemen, in particular universities relying on them to open qualitative technical specializations that keep pace with the requirements of the labor market and open up. Motherland.

MTICTI2021 Conference Chairman Message

Prof. Khalil Saeed Al-Wagih

Rector of Al-Razi University
MTICTI Conference Chairman

The fMTICTI2021 conference comes to constitute an important station in the march of Al-Razi University. This university is moving towards the future according to a clear vision to be one of the top 5 universities at the national level through a realistic strategic plan whose general line is expansion and growth.

Accordingly, the university has kept pace with modernity in the world of higher education, offering quality academic programs that are ahead of the times with a number of quality programs that were born for the first time in Al-Razi University. On the level of scientific research, the university has drawn a research map that responds to national needs and explored topics that touch the reality of reality through research, studies and projects. Graduation and master's theses and was the first to build the first digital repository of research output. As for community service, Al-Razi University is undoubtedly a pioneer of social responsibility among local universities.

This conference aims, in general, to draw the attention of all partners in the public and private sectors to the reality and importance of the information and communications sector and the great opportunities for investment in this field, as it depends primarily on the creative and innovative human resource, and this is what distinguishes the youth of Yemen who need more support to enhance the skill side and thinking A critic who enables them to solve reality problems through information and communication technologies. On the other hand, the conference aims to create a research event with international standards that encourages national and international researchers to make a real contribution to building the knowledge side of this field and is of interest to all researchers in the world to participate and publish.

I find it an opportunity to express my thanks and appreciation to all parties and agencies cooperating with the university in organizing this conference, namely: the Ministry of Higher Education and Scientific Research, the Ministry of Communications and Information Technology, the Ministry of Industry and Trade, the Higher Authority for Science, Technology and Innovation, the General Investment Authority, the Syndicate of Information and Communications Technology, the Institute of Electrical Engineers and electronics. I also extend my thanks and appreciation to the sponsors parties: Yemen Mobile, TeleYemen, the Public Telecommunications Corporation, Yemen Post, Sabafon, MTN, Ebdaa Soft, YemenSoft, Y Telecom.

I also do not forget all of the university's employees who continued day and night and had a great role in the success of the conference and bringing it to this level months ago.

We welcome everyone to Al-Razi University, and we hope that everyone will contribute to the conference's work effectively, and together towards leadership in the ICT industry.

Minister of Higher Education and Scientific Research Message

Mr. Hussein Ali Hazeb
Minister of Higher Education and Scientific Research

We feel happy as we open the work of the MTICTI 2021, organized by Al-Razi University during the period 4-6 December 2021 in cooperation with the Ministries of Higher Education and Scientific Research, Communications and Information Technology, Industry and Teade, the ICT Union in Yemen, and the High Authority of Science and Technology and Innovation.

The convening of this conference represented an important scientific event in addition to the series of scientific and research events and activities that were carried out during the year 2021 and varied in their content and level between conferences, workshops, and scientific seminar, and varied in issues and topics between academic, educational, technological, medical and health, national, and community And what is related to development and the labor market, it has so far reached more than (20) scientific activities that have been adopted by the Ministry of Higher Education and Scientific Research, affiliated institutions, the Council for Academic Accreditation and Quality Assurance of Higher Education, the Information Technology Center, and a number of public and private universities, in contrast to the research movement. science five years ago.

What increased our happiness and satisfaction to see a great positive interaction by our universities with scientific research during this period, and the participation of many government and private sectors, and this step translates the true meaning of participatory planning and the exchange of opinions and ideas aimed at providing decision makers with them and benefiting from them in setting and developing policies and constructive plans, in In light of the challenges and the current exceptional circumstances that Yemen is experiencing.

The interest of the revolutionary and political will, the national salvation government, and the national vision of building the modern Yemeni state in scientific research among its priorities and concerns, forced us in the ministry and higher education institutions to double the effort in this aspect. Hence the importance of concerted academic, research and technical efforts and keeping pace with information and communication technology progress, which is the role entrusted to us and to all educational institutions, the Higher Authority for Science, Technology and Innovation and the private sector. Finally, we extend our sincere thanks and appreciation to the leadership of Al-Razi University and its academic and technical staff for their efforts and interest in holding this conference and other conferences, seminars and workshops that it holds from time to time and significantly to discuss many topics and various issues, hoping that the conference will achieve its goals and objectives, and come up with the necessary and useful recommendations and translate it into reality.

MTIT Minister Message

Mr. Mesfer Abdullah Alnumair

Minister of the Ministry of Telecommunications
and Information Technology (MTIT)

The world today has a digital revolution covering our life in the social, economic and cultural fields. One of the top fields affected by technological development and information and Communication technology (ICT) is education and scientific research in all its levels.

The importance of employing the information and Communication technology in the academic institutions is not an optionalan issue these days but it is necessary that achieving the development in education and scientific research starts from well- employment of information and Communication technology in this field. Moreover, the core of the global conflict is the competition to gain knowledge and development of education and scientific research by all means.

We are in the Ministry of Telecommunications and Information Technology well recognize the importance of providing infrastructure for the services of Telecommunications and Information Technology and copying with the knowledge exposure requirements, the knowledge development basis and direct supervising on building and developing these fields and direct them to serve the labor market in Yemen in cooperation with stakeholders at ministries, universities and civil society organizations.

Accordingly, we indicate that the Ministry of Telecommunications and Information Technology had several practical steps and strategic projects included in its current and future strategic plans which will contribute in facilitating the practical research, build knowledge community and allowing access to them. One of these projects which has already been started by the Yemeni Telecommunications to implement the wireless wide scope project for internet by WiFi technology in the universities and educational and academic institutions in Yemen. Moreover, we are working in launching the modern generations of Telecommunications (4th and 5th) in the coming future.

We are also supporting to launch academic and research electronic clouds in cooperation with concerned authorities in basic, technical and higher education. All of these efforts aim at providing free knowledge access for all researchers, academicians and students. There are many initiatives and policies adopted by the government and the Ministry of Telecommunications and Information Technology as a concerned entity and supervisor of Telecommunications and Information Technology sector which serves these directions.

We congratulate conducting and organizing this essential event- the International Conference of Modern Trends in Information Technology Industry organized by Al-Razi University. We appreciate the efforts of the Ministry of Higher Education and Scientific Research and other participant entities. Good luck and success for all

Industry and Trade Minister Message

General Abdulwahab Yahya Aldurah
Minister of the Ministry of Industry and Trade

It is my pleasure to welcome you all in launching the events of the International Conference of Modern Trends in Information Technology Industry organized by Al-Razi University in cooperation with the Union of Information Technology and Telecommunications and a distinguished specialists and concerners from different sectors and international experts to exchange opinions and experiences in the field of Information Technology and Telecommunications.

In today's world, Information Technology and Telecommunications Industry has become one of the most important pillars for modern economy and an effective tool for the global economy. It has also become a lifestyle for communication of all community members. In the light of current challenges that our country face and the global crises which confirm the necessity of changing to the digital world and virtual space, the Ministry of Industry and Trade is always proud of hosting such vital and important events which are related to contemporary and modern issues in the world today during the information and technology revolution and knowledge economy. I highly appreciate the efforts of Al-Razi University in adopting this exceptional conference which undertakes issues and prospects for creating a bright future by examining the possibility and investment ways in this field.

It is undoubtedly that the government seeks to cope with the proceeding and fast developments in the technology revolution to benefit from it as other countries and employ its outcomes in all private and public sectors to improve skills in information technology and telecommunications in order to contribute in the economic development and serve the sustainable develpoment issues. According to the government orientation toward the digital economy, the Ministry of Industry and Trade assigns a special committee to prepare a law for organizing the e-commerce in order to deal with the nature of the modern changes that depend on electronic documents instead of paper. The committee has achieved the first draft of the law which will be shared with the concerned entities to come up with a final draft matching the development requirements in information technology and telecommunications in particular and digital economy in general.

Absolutely, the government encourages partnership between universities and educational institutions in one side and private sector in the other side for the purpose of supporting and sponsoring innovation, creativity and disseminating solutions and applications that depend on information technology and telecommunications and programming that are free to access specially the innovative applications which are the requirements and needs for digital change.

I hope that your conference works would succeed and come up with real recommendations during serious discussions and negotiations among specialists, officials, decision makers, companies and local and international experts in the field of information technology and telecommunications.

In conclusion, I have to repeat my special gratitude for all organizers of this vital conference, many thanks for the work team and all participants from private and public sectors.

Thank you all.

The Higher Authority for Science, Technology and Innovation Message

Dr. Muneer Abdulrahman Al-Qadhi
Chairman of the Higher Authority
for Science, Technology and Innovation

The ICT industry is one of the most important modern topics in which human and financial resources are invested to achieve comprehensive economic and social development at the national level. Creativity and innovation in this field play a pivotal role in competition in the global market.

Human resources form the backbone of any plan to achieve sustainable development and to develop the economy and society. Building human capacities is the means and the goal in the process of developing ICT. People are the source of all value in the information society, while technology is just a tool. Therefore, every person should have the opportunity to acquire the skills and knowledge necessary to integrate into the information society and make full use of it. This process requires the concerted efforts of all concerned parties from the government sectors, the private sector and civil society organizations to train and rehabilitate human resources, with the importance of the continuity of this process due to the constant development of technology, the continuous population growth and the constant need to train successive generations on modern technology.

The development of information and communication technology has greatly affected the growth and development of societies, to the extent that almost no institution or startup company in any sector is devoid of development or innovation that depends entirely on information and communication technology, including traditional industries and businesses. Software is nowadays one of the most important components of the infrastructure for various projects in administrative, service, production and industrial processes in modern societies within the framework of the state, institutions or even small enterprises.

Countries are striving, in varying degrees, towards building the information society, as the fate of humanity is now dependent on intangible elements represented in data, information, systems and programs that represent a source of strength for many countries of the world. Recent years have witnessed in most Arab countries serious processes to launch economic, political and social reforms to build an information society and a knowledge-based economy. The knowledge economy has become the mainstay of economic recovery and the rise of many countries of the world, as it is low in cost and quick in benefits. Although a number of countries in the region have been able to make tangible progress in this field, further steps are still required to reach this goal, which will undoubtedly be reflected in raising the living standards of the population, combating poverty and achieving sustainable development.

We hope that the efforts of all institutions in the public and private sectors will join forces to move forward in making the digital renaissance that will contribute to achieving the economic and social well-being of the beloved people of Yemen.

God grants success

Scientific Research Sector of the Ministry of Higher Education Message

Prof. Dr. Sadeq Hassan Al-Sharaji

Scientific Research Sector
of the Ministry of Higher Education

We meet today in the presence of Al-Razi University to hold the first international conference on the modern trends of the ICT industry - 2021 in a participatory framework that brings together all those concerned with the ICT industry from government and regulatory agencies, academic universities, academic specialists, telecommunications and information technology companies, and ICT unions. In unifying the vision and the path and formulating common policies that would raise the level of the information and communication technology industry in our country.

Especially since our need today more than ever for more partnership to achieve the slogan of the conference, which is towards leadership in the ICT industry, especially since the world has preceded us a lot in the field of technology and technological development at the level of services and industry.

We meet in this event to appreciate the high and responsible spirit of the leadership of Al-Razi University in taking the initiative to activate the scientific research process, which represents a real and solid start to lay the foundations of the educational process that keeps pace with the most prominent developments and modern technology and linking theoretical aspects with applied aspects.

Where the university has previously been distinguished in this context by adopting many scientific research activities and external participation in scientific conferences, issuing Al-Razi medical scientific journal, organizing scientific conferences and symposia, and this is a tangible research activity through scientific publishing programs for faculty members, and the university's possession of the first digital repository of the university's production research in Yemen.

I am overwhelmed with optimism that this event will achieve success in its work and come out with effective visions, recommendations and perceptions that will achieve the main objectives for which the conference was held, and that this event will constitute a milestone on a solid base of strategic partnerships to establish a new stage for the scientific research process at the level of public and private universities and centers affiliated studies to ensure overcoming the current challenges facing the educational process.

Yemeni ICT Syndicate

Mr. Mohammed Ahmed Alrayashi
Chairman of Yemeni ICT Syndicate

At first, I would like to welcome you all in our conference today which will discuss a number of the most important issues and programs related to modern trends in information technology and tele-communications industry.

The issue of information technology and telecommunications industry has become very important not only for us but for the whole world because we have increasingly depended on information technology and telecommunications which engage in all our life details. We haven't watched in the past what we see today because the world around us is changing very fast with huge amounts of modern technology.

Our systems has become more communicable and more accessible than before. We also have a huge number of internet connected devices which become more intelligent as time passes. In the launching of 5G services, we are waiting for more smart devices in our homes, offices, works and all public places because they are distinguished as well as our community with increased connection in the time when we still seek for exploring new technologies to be employed in our daily life

Our wise leadership has realized from a very early time the necessity of working on the information and communication technology industry well. Accordingly, the National Information Technology Safety Team was formed by a group of specialists and academicians in this field to enhance cooperation between the public and private sectors, formulate a clear national strategy in the field of information and communication technology, as well as to develop national policies and standards, to conduct information security assessments, and to provide relevant programs in order to help everyone protect information technology systems and electronic assets in the public and private sectors, and in particular the operators of critical information infrastructures.

The need to face challenges in the information and communication technology industry has become an urgent necessity in the light of our trend towards an economy based on connectivity, big data and the Internet of Things. Governments, large companies, and even small newly established companies are no longer able to afford the investment in useless solutions to detect and address information security challenges. It has also become necessary for them to be aware of the impact of information security on their strategies and their long-term sustainability.

Our goal is embodied in this conference, which is organized by Al-Razi University and in cooperation with the Yemeni Information and Communication Technology Syndicate. The information and communication technology industry Conference is to bring together various economic sectors, government, and international experts to discuss the latest developments in this critical field.

Our task today in this conference is to provide you with the tools and knowledge that will help ensure that our nation remains safe. However, it is your responsibility to use these tools and knowledge to make sure that all of our government systems are secure from design through activation to sustainability.

IEEE YEMEN SUBSECTION CHAIR MESSAGE

Assoc. Prof. Dr. Ammar Zahary
Chair of IEEE Yemen Subsection

First, I would like to welcome all of you to the International Conference on International Conference of Modern Trends in Information and Communication Technology Industry 2021 (M-TICTI 2021), which is held in dual mode virtual and face to face at Al-Razi University, Yemen on December 4-6, 2021.

We, in the Executive Committee of IEEE Yemen Subsection, are pleased to congratulate the organizing committee of the MTICTI 2021, which is organized by Al-Razi University, Yemen and Yemen IT & Communications Union. The conference is technically sponsored by IEEE Yemen Subsection. This conference allows dual modes of presentations, on-site and online virtually via online meeting platforms. MTICTI 2021 provides space for local and international researchers to engage in the production of publication and research collaborations. This participation essentialltly leads to transferring the knowledge and exchanging of researchers' experiences.

The scientific committees have adhered to the professional criteria in reviewing all submitted papers to ensure the quality of accepted papers, which are supposed to be published in IEEE XPLORE.

We thank the organizing committee and scientific committee for their good efforts in making this conference successfull. We wish them a great success and we assure that we will always support their distinguished conferences.

CONFERENCE TECHNICAL PROGRAM COMMITTEE CHAIR MESSAGE

Dr. Yahya Al-Ashmori

Dean of the Faculty of Computer and Information Technology
Technical Program Committee Chair

I would like to extend a warm welcome to all of you to the International Conference on Modern Trends in the Information and Communication Technology Industry (MTICTI 2021), which is held on-site at Al-Razi, Sana'a, Yemen, and virtually via ZOOM online meeting from 4 to 6 December 2021.

The MTICTI 2021 conference received 108 submissions from 25 different countries. The acceptance rate was about 45%, which reflects a strict review process by more than 90 external reviewers who contributed around 250 reviews in addition to the reviews made by MTICTI 2021 committee members, and 45 papers have been selected for presentation and included in the MTICTI 2021 proceedings after rigorous double-blind peer-review.
Great thanks should go to the professional team who were responsible for chairing the 7 tracks of the conference. Each paper was assigned to, at least, three reviewers and received two to four reviews, either from the technical committee members or external reviewers carefully selected by track chairs.

On behalf of the MTICTI Committees, we would like to express our gratitude to all of the resource persons, including keynote speakers and session chairpersons, for volunteering their time to support the conference. We also want to express our gratitude to all of the conference organizers, who made a significant contribution to the conference's success. Special thanks go out to the authors who contributed to this event.

I truly hope that all participants and attendees will benefit from the keynote speakers and papers presented at this joint conference, and that the conference will be a great success.

2021

MTICTI

Kenyote Speakers

Kenyote Speakers

Professor Ir. Dr. Nor Ashidi bin Mat Isa

USM, Malaysia

New Possible Contrast Enhancement Approach for Non-Uniform Illumination Images

- Current designation: Professor Ir. Dr.
- School of Electrical and Electronic Engineering, Universiti Sains Malaysia
- Nationality: Malaysia

- Academic qualifications:
  Doctor of Philosophy (Ph.D.) in Electrical & Electronic Engineering, USM, 2003.
  Bachelor of Engineering (B. Eng) (Hons) in Electrical & Electronic Engineering, USM, 1999.

- Professional qualifications:
  Professional Engineer (PEng) – Board of Engineers Malaysia (BEM)
  Chartered Engineer (CEng) – Engineering Council UK
  Member – Institute of Electrical & Electronic Engineering (IEEE)

- Area of expertise: Image Processing, Intelligent Systems, Medical Imaging, Computational Intelligence
- Research experiences: 21 years
- Teaching experiences: 17 years

Kenyote Speakers

Professor Dr. Ali Ameen
Lincoln University College, Malaysia

Future of Silicon Valley in Yemen

- Currently, Ali Ameen is a Professor in the Faculty of Computer Science and Multimedia, Lincoln University College, Malaysia. Ali Ameen was awarded his first Ph.D. by the Faculty of Information Science and Technology, University Kebangsaan Malaysia (UKM).

- He holds second Ph.D. From the faculty of management and accountancy, in the field of operations and technology management. He holds M.Sc. Master and B.Sc. Degree in computer science from Mosul University, Iraq.

- He has produced more than 91 Journal articles in high recognized academic journals, 35 international conference and 13 Book Chapter.

- Currently he is an Executive Manager and founding member of Mind Lab Project (Centre of Research Excellence) at Lincoln University.

- He also contributed in organizing numerous international conferences in various countries (Spain, Japan, South Korea, China, Malaysia, Vietnam, Nepal, Yemen, Tunisia, China, UAE, Indonesia, Myanmar, and Singapore).

- Ali Ameen has great experience as an academic supervisor, where he graduated under his hand 30 Ph.D. Degree, 6 Masters, and 54 MBA.

- He contributed to the evaluation of many of the doctor's theses as an external examiner at Malaysian universities, India, and Korea.

Kenyote Speakers

Assoc. Prof. Dr. Adib M. Habbal
Karabuk University, Turkey

Blockchain Technology: Opportunities, Challenges, and future direction

Jan 2019 – Karabuk, Turkey
• Taught Ph.D level courses and Supervised PhD and Master students
in my research area.
• Led research projects and published in high impact journals.

Senior Lecturer
Universi - Utara Malaysia (UUM, Feb 2009 – Dec 2018 ⊠ UUM Sintok, Malaysia.
• Taught a large number of undergraduate and graduate level courses.
• Led research projects and published in high impact journals.
• served on numerous professional society and local community.

Head of InterNetWorks Research Platform:
UUM School of Computing, Jan 2016 – Dec 2018, InterNetWorks Research Lab.
• Led research projects in Future Internet and 5G Mobile networks.
• Supervised PhD and Master students in my research area.

Chairman of Inernationalization Committee
UUM School of Computing, August 2016 – Dec 2018, UUM Sintok, Malaysia.
• Organized international workshops, training, and knowledge sharing.
• Established international contacts to promote our school.

IEEE UUM Student Branch Founding Counselor
IEEE Malaysia Section / IEEE Asia Pacific Region, Dec 2013 – Dec 2016, UUM, Malaysia
• Promoted student awareness of awards, contests and benefits of
membership.

Kenyote Speakers

Assoc.Prof. Dr. Youness Chaabi
Doctorate in Sciences
Ibn Tofail University, Morocco

Reinventing Education for the Digital Age

- July. 2016 - Doctorate in Sciences (cotutelle Doctoral) Titre : "Contribution of Multi-Agent Systems and Fuzzy logic to support tutors in Learning Communities".
- Option : Mathematics, Informatique and Applications. Montion : Very honorable with unanimous congratulations from the jury.
- Laboratory 1 : Laboratory Systems of Telecommunication and Deci-sion Engineering (LAS-TID) Research Unit 1 : Science and technology. Institution 1 : Ibn Tofail University, Faculty of Sciences, Kenitra, Morocco.
- Laboratory 2 : Institute for Transportation Research, Energy and Society - Systems and Trans-port Laboratory (IRTES-SET).
  Research Unit 2 : Physical Sciences for the Engineer and Microtechnologies.
- Institution 2 : University of Technology of Belfort-Montbéliard,France.
  September. 2011 Master's Degree Option : Software Quality Ibn Tofail University, Faculty of Sciences, Kenitra, Morocco. November. 2009 Bachelor's Degree Option : DataBase Ad-ministrator Ibn Tofail University, Faculty of Sciences, Kenitra, Morocco. 2 July. 2008 Higher
- Technician Certificate Option : Computer Engineering Qualifiant Moulay Ismail high school, Meknes, Morocco. June. 2006 Technological baccalaureate Option : Electrical Mohamed V Technical High School, Beni-Mellal, Morocco

Kenyote Speakers

Assoc.Prof. Dr. Mohammed Al Sarem
Taibah University
KSA

Social network analysis: challenges, issues and future trends

- Currently working as Associate Professor of Data Mining at Information Systems Department, Taibah University, Saudi Arabia.
- Previously, worked as Senior Lecturer at Computer Science Department, Faculty of Computing, Sana'a University, Yemen.
- In 2013, PhD of Informatics with Merit Award and No Corrections (A) from Hassan II Univerisity, Mohammadia-Casablanca, Morocco in the field of Data Mining.
- In 2007, obtained MSc of (Information Technology) from the Volgograd State Technical University, Russia.
- In 2005, obtained my BSc of Computers (Information Technology) from the same university.
- During his studies/work, he received several awards such as Tomsk Polytechnic Award (2007) for best application, Silver Medal Award of research (2013), Yemen Embassy Academic Excellence Award (2013), TU Appreciation for outstanding performance (2016) and Honor Diploma of Sana'a University (2009).

- His main research area is Data Mining, Machine Learning and Information Retrieval. He published about 25 papers in ISI and SCOPUS indexed journals papers. In addition, he published about 30 papers in international conferences. Since 2018, I managed several research grants from Ministry of Higher Education in Saudi Arabia

Kenyote Speakers

Associate professor ARWA Y. ALERYANI
IT Independent Researcher
Canada

The Role of the Human Cloud in Shaping the Recruitment Indus

- Hold a PhD in Information Technology from the University of Khartoum, an MSc in System Analysis and Design from City University/London, and a Bachelor of Science in Computer Sciences from Kuwait University.

- Extensive academic and professional experience: During the twenty years period of experience, besides teaching and researching she have assumed different responsibilities in Saba and Future Universities/Yemen, among them, Dean of Faculty of Computer & Information Technology, Head of both, Quality Assurance Unit and distance learning Unit, and Editor-in-Chief of Information Technology and Networking Journal.

- Teach: core courses and advanced courses in the Information Technology Programs for undergraduate and graduate students; including System Analysis and Design, ebusinesses, e-management, Databases, Distributed Databases, Software Engineering, Decision Support system, and supervise students' graduation projects.

Kenyote Speakers

Eng. Abdulrahman M. Abutaleb

MTIT- Yemen

E-learning and the Role of MTIT as organizer for ICT in Yemen

Master in Information Technology and Management - Taiz University with the Dutch University of Daft 2014

Bachelor of Electrical Engineering (Electronics and Communications) - 1998 - Sana'a University.

Engineer in the Optical Fiber and Pager Department of the General Administration of Maintenance 2000-2001.

Head of the Data Communications Network Administration Department 2008.

Director General of Communications Regulatory at the Ministry's General Diwan on December 2018.

More than twenty years in the PTC and the MTIT.

Kenyote Speakers

Professor Dr. Ali Nagi Nosary

CEO of TeleYemen
The International Telecommunications
Gateway of Yemen

Readiness and migration strategies towards 5G in Yemen

Ali Nosary received a B.E. (Telecom & Electronics) degree from the Faculty of Engineering, Sana'a University, Yemen, in 1991, and MSc and PhD degrees in Computer Vision from Rouen University, France in 2002. He worked as a teacher assistant and lecturer at Sana'a and Rouen Universities between 1992 and 2002. He is an assistant professor at Sana'a University, Faculty of Engineering since 2002. His research interests are in signal processing pattern recognition, artificial intelligence and coding.

He has been working as an ICT consultant at the ministry of telecommunications and other ministries. He was nominated as Director General of Yemen Telecom (PTC) from august 2007 to march 2012. Through this position, was the Chairman of Yemen Mobile, vice chairman of TeleYemen, board member of the Post Authority during that period

Kenyote Speakers

Dr. Abdulaziz Al-Houri
Vice President
Higher Authority for Science, Technology and Innovation
YEMEN

National competitions on the way to supplement the ICT industry

■ Vice President of the Higher Authority for Science, Technology and Innovation.

Kenyote Speakers

Amer Mohammed Hazza'a

Executive Director of Yemen Mobile Company

Information technology and Communication tracks

- Executive Director of Yemen Mobile Company .
- General Manager of the Data Communication Network and the Internet at the Public Telecommunications Corporation 2004-2012.
- Director of the Internet Department at the Public Telecommunications Corporation 2001-2004 .
- Director of Curricula and Planning at the General Institute of Communications 1996-2001.
- Trainer at the General Institute of Communications 1989-1996.
- Bachelor of Communications Engineering 1993.
  Diploma in preparing engineers, Ministry of Communications, Post and Space, the franc, November 1989.
- Diploma in telecommunications, General Institute of Communications, Sana'a, October 1987.
- Technical Communications High School, Yemen, 1984.

Kenyote Speakers

Assoc.Prof. Dr. Fuaad H. Abdulrazak
CEO of the Center for Information Technology
in Higher Education
YEMEN

The role of higher education institutions in the ICT industry

- Associate Professor at Dhamar University
- PhD in Computer Science - Communications and Networks Technology - University Putra Malaysia - 2012
- MSc Computer Science - Parallel and Distributed Systems - University Putra Malaysia - 2005
- Bachelor of Computer Science - Zarqa University - Hashemite Kingdom of Jordan -2001
- Member of the teaching staff at Dhamar University - Faculty of Computers and Information Systems - 2001 - now
- Head of Information Technology Department - College of Computers and Information Systems - Dhamar University - 2013-2017
- Head of the Department of Computer Science and Information Technology - Yemen Academy for Graduate Studies - January 2014-2018
- Dean of Computer and Informatics Center - Dhamar University - January - 2015

Kenyote Speakers

Abdulbasit Saif Ali Al-Bakri

Ministry of Industry and Trade

Patents and their role in encouraging the ICT industry in Yemen

Bachelor of Business Administration, University of Sana'a - 93 / 94
(Now)Director of Patents and Industrial Designs, Ministry of Industry and Trade.
Senior Specialist at the General Administration of Intellectual Property Protection (2010-2017).
Brand Manager (2004 - 2008, 2019 - 2020).
Head of the Department of Objective Examination of Trademarks (1997 - 2004).
Head of the Formal Examination Department for Trademarks (1994-1997).

Kenyote Speakers

Mohammed Nasser Al-Hawaly

Yemen Post General Authority

The directions of the Yemeni Post's senior leadership towards the application of the Internet of Things

Postage stamp manager
Master of Business Administration, Dhamar University

Kenyote Speakers

Ahmed Y. Al-Nasheri

Technical Office Manager
General Authority for Investment

Investment prospects in the ICT industry in Yemen

■ **EDUCATION**
PhD in Computer Engineering, King Saud University, KSA, 2010- 2017.
Master of Science in Computer Science, New Mexico State University, US.
Bechelor Degree in Computer Sciences,King Saud University, KSA,

■ **Work Experience**
Programmer, King Saud University, KSA, 1994-1995.
Programmer, Ministry of Telecommunication, Yemen, 1994-1995.
Teacher, Azal Institute,Yemen,1996-1999.
Teacher, Sana'a Community College,Yemen,2004-2016.
Teacher, Applied Studies and Community Service,KSA,2014-2015.

Kenyote Speakers

Eng. Khaled Mohamed Ahmed Al-Junaid
Executive Office of Managing the National Vision.

Social network analysis: challenges, issues and future trends

- Head of the Secretarial, Communication and Information Systems Unit in the Executive Office of Managing the National Vision.
- Bachelor of Computer Engineering 2000
  Master of Education Technology 2014
- Instructor and supervisor of many graduation projects at the University of Science and Technology 2002-2004
- Director General of the Higher Committee for Elections and Referendum Branch 2012-2020

Kenyote Speakers

Eng. Ghamdan Ahmed Al-Anesi
CEO of Networld Company.
YEMEN

Hosting in Yemen

- CEO of Networld.
- Chairman of the Information Technology Committee of the Chamber of Commerce and Industry.
- Advisor to the Ministry of Communications and Information Technology

Kenyote Speakers

Omer Aziz Al Aghbari

Information Security Officer – MTN

Adopting MITRE ATT&CK & Atomic Red Team

MBA MsM , ITIL expert,
Certified Cyber security incident handler (GIAC).
20 Years of experience in IT infrastructure technologies , security and operations.

Kenyote Speakers

Nizar Abdulwahab Al-Moaid

Chief Information Technology Officer – SabaFon

Digital Transformation Projects in Yemen

CIO, Project Management and Digital Transformation consultant and trainer. More than 20 years' experience in Telecom and IT sector. Holds BS degree in Computer Science (Jordan) and MBA degree (Sanaa University with Maastricht School of Management in Netherlands). PMP & ITIL certified.

Kenyote Speakers

Ahmed Abduladhem Mohammed Al-Amri

YemenSoft

Idea incubators tributary to the ICT industry

Bachelor of Computer Science (BSc), Univeristy of Science & Technology – Sana'a – Yemen – 1999.

- Member of Research Department – YemenSoft (2001 – 2004)
- Head of Research, Hotel, Resturant and Smart Apps Section – YemenSoft (2004 – 2008)
- Head of Research Department – YemenSoft – since 2008
- Lecturer and Research assistant in University of Science & Technology (1999-2001)
- Teacher for Ministry of Interior (2003)
- Teacher in Infinite Education Institute (2004)
- Member of IT committee in Sana'a Industrial and Commerece Chamber
- Expert in
  o System Analysis
  o Databases Design
  o Code Programming
  o Programming Research
  o PC Maintenance
  o Small Computers Maintenance
  o Training and Identifying Training Needs

Kenyote Speakers

Ibrahim Mohammed Mohammed Al-Za'am

Ebda'aSoft

The role of ERP systems in business automation

Director of development and systems department Ebda'a Soft Company

Kenyote Speakers

Eng. Abdulfatah Al-Kebsi
CEO, Y-Telecom, Yemen

5G Readiness & Enabling Condition in Yemen: Technology, Market, and Policy (including Spectrum)

Chief Executive Officer , Y-Telecom, Yemen

Kenyote Speakers

Anhar Mused Al-Ansi

Founder and CEO
TargetsGuide for Digital Solutions Services Company

Role of Yemeni Telecommunications in Digital Economic

Anhar Al-Alansi Entrepreneur and TargetsGuide for Digital Solutions Services Company founder and CEO and International Partner in World Business Angels Investment Forum ,she is a Computer and Control engineer and researcher in the fields of digital identities, Fintech, 5G services and networks and (IoT).
Anhar is a certified Digital Money and Digital Identity and Agile project management Engineer also a consultant in the field of modern I.T. infrastructure (HCI – DNS – VPS) communication systems and networks (WiMAX WIFI-4G then 5G) and Digital Systems Architecting and modeling.

Anhar was awarded as a best Internet networks engineer in 2013 Yemen country level also has international award from Ericson because of her Innovation in best 5G Hetrogenuse network (HetNet)development in 5G MENA 2016 level and shortlisted in 2018 in a Best Innovation in 5G networks deployment .Anhar holds BS. Degree in Computer and Control Engineering from Sana'a University- Yemen.

MTICTI 2021

Conference Programs

December 2021

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

MTICTI2021 Program

Day 1 : 04/12/2021	
Time	Agenda
8:00 am – 8:50 am	Registration
9:00 am – 9:05 am	Quran Kareem
9:05 am – 9:10 am	National Anthem
9:10 am – 9:20 am	Welcoming speech by *Prof Dr. Khalil Alwagih*, The MTICTI 2021 General Chair
9:20 am – 9:30 am	Welcoming speech by *Dr. Yahya Al-Ashmori*, The MTICTI 2021 Program Committee Chair
9:30 am – 9:40 am	Speech of Minister of Telecommunication and Information Technology *Eng. Musfer Al-Numair*.
9:40 am – 9:50 am	Speech of Minister of Industry and Trade *Mr. Abdulwahab Al-Durra*.
9: 50 am – 10:00 am	Speech of President of Supreme Authority of Sciences , Technology and Invention *Dr. Muneer Al-qadi*.
10:00 am – 10:10 am	Speech and officially opening MTICTI 2021 by Minister of Higher Education and Scientific Research *Mr.Hussen Haazeb*.
10:10 am – 10:20 am	officially Speech by official Sponsor: Prime Minister by *Prof Dr. Abdul Aziz bin Habtoor*
10:20 am – 10:30 am	officially Speech of Higher Political Council
10:30 am – 10:45 am	Break
10:45 am – 11:15 am	Keynote Speech 1 by: *Professor Ir. Dr. Nor Ashidi bin Mat Isa* **Title:** New Possible Contrast Enhancement Approach for Non-Uniform Illumination Images.
11:15 am – 11:45 am	Keynote Speech 2 by: *Professor Dr. Ali Ameen* **Title:** Future Silicon Valley in Yemen
11:45 am – 12:00 pm	Keynote Speech 3 by: *Eng. Abdulrahman Abo Taleb* **Title:** E-learning and The Role of Ministry of Telecommincation and Information Technology as a Service provider in Yemen
12:00 pm – 12:15 pm	Keynote Speech 4 by: *Prof.Dr. Ali Naji Nusari* **Title: 5 Generation Communication**
12:15 pm – 12:30 pm	Keynote Speech 5 by: *Dr. Abdul Aziz Al-Houri* **Title: National competitions on the way to supplement the information technology industry**
12:30 pm – 12:45 pm	Keynote Speech 6 by: *Eng. Amer Hazzaa* **Title: Evolution of the communications and information technology tracks**
12:45 pm – 02:00 pm	Break

02:00 pm – 04:00 pm	Parallel Sessions		
	Auditorium	Hall 602	Hall 603
	7 papers	7 papers	7 papers

MTICTI2021 Program

2:00-4:00	**Session 1A: Parallel Session**　　　　　**Location:** Auditorium **Track:** Artificial Intelligence and robotics (AI-Robotics) **Chaired by:** Assoc. Prof. Dr **Ahmed Sultan** **Co-chaired by:** Assoc.Prof. Dr. Dr **Hisham Haider** **Technician:** YUSEF ABDULMUGHNI	
	ID	**Paper Title**
2:00-2:15	20	Guan Tan Zhen, Abdul-Malik H. Y. Saad, Antar Shaddad H. Abdul-Qawy, Adnan Haider Yusef Sa'D, Nayef.A.M. Alduais, **BNC Position Estimation for an Automated Testing Facility in the Production of Oscilloscope**
2:15-2:30	25	Qazwan Abdullah Tarbosh, **Sensorless Speed Control of Induction Motor Drives Based MRAS with Fuzzy Logic Controller**
2:30-2:45	49	Ahmed Qasim Abdulghani, Osman Nuri Ucan and Khattab Ali, **Card Fraud Detection System using Machine Learning Algorithms and Fuzzy Membership**
2:45-3:00	69	Ghadir Alselwi and Tuğrul Taşcı, **Error Optimization in Random Number Generation Using ABC Algorithm**
3:00-3:15	71	Hossein Mirzanejad, Haitham Daealhaq, Ehsan Salajegheh, Shahaboddin, Ali Mojarrad Ghahfarokhi and Fatemehalsadat Beheshtinejad, **Optimal Compensation of Bouc-Wen model hysteresis using square dither**
3:15-3:30	72	Kainat Rizwan, Sehar Babar Sania Nayab, **HarX: An algorithm to detect harassment from real-time messages**
3:30-3:45	73	Mokhtar Al-Awadhi and Ratnadeep Deshmukh, **Detection of Adulteration in Coconut Milk using Infrared Spectroscopy and Machine Learning.**
2:00-4:00	**Session 1B: Parallel Session**　　　　　**Location:** CDC1 Hall **Track:** E-learning **Chaired by:** Assoc. Prof. Dr. Basheer Al-maqalih **Co-chaired by:** Dr. Bilal Alfuhidi **Technician:** Mr. HUTHAFIAH KHALED	
	ID	**Paper Title**
2:00-2:15	8	Jean Williams Osco Pupe and Igor Aguilar Alonso, **Web System as support to automate processes of the administrative area of pre-university center.**
2:15-2:30	10	Ytalo Ramiro Sánchez Simeón and Igor Aguilar Alonso, **Digital Transformation Factors for Architecture in Peruvian Artisan Producer Businesses**
2:30-2:45	29	Yahya Al-Ashmoery, Najran Nasser, Adnan Haider and Hisham Haider, **Learning analytics toolset for evaluating students' performance in an E-learning Platform** .
2:45-3:00	57	Hamzah Alaidaros, Ahmed Kherd and Hussein Ali Al-Aidroos, **Students' Perception of Online Learning during Covid-19 Pandemic at Al-Ahgaff University, Yemen: A Survey**

MTICTI2021 Program

3:00-3:15	58	Saadia Anwar Pasha, Humaira Sharif and Enaam Youssef Mohammed Youssef, **Role of Virtual Reality in Improving Students' LMS Experiences: A Structural Equation Modelling Based Study**
3:15-3:30	74	Youness Chaabi and Yahya Al-Ashmoery, **Development of a Learning Analytics extension in Open edX.**
3:30-3:45	107	Mohammed Al-Dowail and Abdullah Al-Hashedi, **Stakeholders-Driven Process Mining Methodology for Analyzing Emergency Department Processes**
2:00-4:00	Session 1C: Parallel Session **Location:** CDC2 Hall **Track:** Communication and networking ***Chaired by:*** *Assoc. Prof. Dr. Ammar Alzahari* ***Co-chaired by:*** *Assoc. Prof Dr.* **Abdulaziz Alhetar** ***Technician:*** *Mr.* **Huthafaih Khaled**	
	ID	**Paper Title**
2:00-2:15	3	Danyang Li, Dong Zhou and Liyuan Zhong, **Coexistence analysis between 5G NR and LTE network at 1.8 GHz**
2:15-2:30	19	Shakib Abdulahi Osman, Noorsaliza Abdullah, Qazwan Abdullah, Noran Azizan Cholan and Abdul Rashid O. Mumin, **Survey of Micro Fluidic Phased Array Antenna for Beam Steering Techniques**
2:30-2:45	26	Abdullah Ali Abdo Hasan, **Planning LTE Network at Ibb City**
2:45-3:00	28	Manal A.Areqi, Mansoor N.Ali and Ammar Thabit Zahary T.Zahary, **A Theoretical Framework For Telecom Internet of Things in Developing Countries.**
3:00-3:15	53	Salar Ahmed, Siddeeq Ameen, and Subhi Mohammed, **Caching in 5G Mobile Communication System**
3:15-3:30	103	Khadeeja Sabah Jasim, Khattab Ali and Abdul Kareem A. Najem Alaloosy, **A Review Paper on Secure Communications in FANET.**
3:30-3:45	104	Sarah Amjad Inad, Khattab Ali and Salah Sleibi Al-Rawi, **A Review Paper on Energy Conservation Strategies in WSN**

MTICTI2021 Program

Day 2 : 05/12/2021			
Time	Agenda		
8:00 am – 08:30 am	Registration		
8:30 am – 9:00 am	Keynote Speech 7 by: *Assoc. Prof. Dr. Adib M. Monzer Habbal* **Title: Block Chain**		
9:00 am – 9:30 am	Keynote Speech 8 by: **Assoc. Prof. Dr. Youness Chaabi** **Title: Reinventing Education for the Digital Age**		
9:30 am – 9:45 am	Refreshment		
9:45 am – 10:00 am	Keynote Speech 9 by: *Eng.Omer Aziz (MTN)* **Title:** Cyber-security		
10:00 am – 10:15 am	Keynote Speech 10 by: *Eng. Nizar Almoayyed* **Title:** Digital transformation		
10:15 am – 10:30 am	Keynote Speech 11 by: *Eng. Ahmed Al-Omari* **Title:** Idea incubators tributary to the ICT industry		
10:30 am – 10:45 am	Keynote Speech 12 by: *Eng. Anhar Al-Ansi* **Title:** The role of Yemeni telecom in developing the digital economy		
10:45 am – 11:15 am	Discussion		
11: 15 am – 11:30 am	Keynote Speech 13 by: *Eng Abdulfattah Al-Kebsi* **Title:** 5G Readiness and Enabling Conditions in Yemen Technology, Market and Policy (Including Spectrum)		
11: 30 am – 11:45 am	Keynote Speech 14 by: *Eng. Mohammed Al-Hwali* **Title:** The directions of the Yemeni Post leadership towards the Internet of Things		
11: 45 am – 12:00 pm	Keynote Speech 15 by: *Eng Ibrahim Al-zaam* **Title:** The role of ERP systems in business automation		
12:00 pm – 12:30 pm	Discussion		
12:30 pm – 02:00 pm	Break		
02:00 pm – 04:00 pm	Parallel Sessions		
	Auditorium	Hall 602	Hall 603
	7 papers	7 papers	7 papers

MTICTI2021 Program

2:00-4:00	**Session 2A: Parallel Session** **Location:** Auditorium **Webinar - Zoom Link:** **Track:** Cybersecurity **Chaired by:.** Prof. Dr. **Sharaf Alhamdi** **Co-chaired by:..** Dr. **Adnan Haider** **Technician:** Mr.		
	ID	**Paper Title**
2:00-2:15	37	**A Review on Gamification for Information Security Training** Karzan H. Sharif and Siddeeq Y. Ameen.
2:15-2:30	41	Dana Doghramachi and Siddeeq Ameen, **Internet of Things: Threats, Security Requirements, Solutions with Blockchain and Context-Aware and Challenges**
2:30-2:45	51	Techniques, Marwa Mohammed Khalifa, Osman Ucan and Khattab Ali, **New Intrusion Detection System to Protect MANET Networks Employing Machine Learning**
2:45-3:00	61	Hanifa Abdullah, **Towards the design of pre questionnaires to promote information privacy protection awareness**
3:00-3:15	70	Hossein Mirzanejad, Taraneh Kamyab, Ali Mojarrad Ghahfarokhi, Fatemehalsadat Beheshtinejad and Arian Yousefiankalareh, **Utilizing Multi-Agent Systems Approach in Firefly Algorithm**
3:15-3:30	78	Zainab Ali Abbood, Doğu Çağdaş Atİlla, Çağatay Aydin Aydin and Mahmoud Shuker Mahmoud, **A SURVEY ON INTRUSION DETECTION SYSTEM IN AD HOC NETWORKS BASED ON MACHINE LEARNING**
3:30-3:45	92	Jiechen Luo and Xuelan Yang. **Federation learning and convolutional neural network based intrusion detection methods**

MTICTI2021 Program

2:00-4:00	**Session 2B: Parallel Session** **Location:** CDC1 Hall **Google Meet:** **Track Artificial intelligence +IOT** *Chaired by:* Assoc. Prof. Dr. **Nasser Alqudami** *Co-chaired by:* Dr. Muneer Almeklafi *Technician:* Mr.		
	ID	**Paper Title**	
2:00-2:15	5	Deepti Kulkarni and Dr.Rashmi Soni, **Artificial Intelligence and Internet of Things based Women security system**	
2:15-2:30	15	Mohammed Habes, Sana Ali, Mokhtar Elareshi, Khalaf Tahat and Abdulkarim Ziani, **The Role of AI in Choosing Content Social TV at Online Platforms: Youtubers' perspectives**	
2:30-2:45	21	Bassam Arkok and Akram Zeki, **Classification of Quranic Topics using SMOTE Technique**	
2:45-3:00	22	Haleema Alkhorasani, Yasmeen Alqadi and Ahmed Y. A. Saeed, **Detecting Parkinson Disease by Sketching drawings Using Artificial Intelligence**	
3:00-3:15	27	Basel Dabwan and Mukti Jadhav, **A Yemeni Sign Language Recognition Using Deep Learning**	
3:15-3:30	31	Ebin Pm and Raman Chadha, **Identification of Pneumonia Symptoms in Covid19 patients using Transfer Learning Approach**	

MTICTI2021 Program

3:30-3:45	35	Mokhtar Al-Awadhi and Ratnadeep Deshmukh, **A Review on Advanced Analytical Techniques for Classifying the Botanical Origins of Honey**
2:00-4:00		**Session 2C: Parallel Session** **Location:** CDC2 Hall **Google Meet:** **Track:** Intelligent Technologies + Image processing *Chaired by: Assoc. Prof. Dr. **Taher alreshahi*** *Co-chaired by: Dr. Hisham Haider* *Technician: Mr.*

	ID	Paper Title
2:00-2:15	43	Mokhtar Al-Awadhi and Ratnadeep Deshmukh, **A Review on Modern Analytical Methods for Detecting and Quantifying Adulteration in Honey**
2:15-2:30	54	Fatima Al-Kebsi, Khalil Al-Wagih and Basheer Al-Maqaleh, **An Effective Algorithm for Mining Interesting Maximal Association Rules**
2:30-2:45	56	Hajar Yaseen and Siddeeq Ameen, **Review and Evaluation of End to End Video Compression Based on Deep-Learning**
2:45-3:00	67	Abdulsalam Alkholidi, **Optical Colored Image Compression Using RGB Laser Light: Simulation Results**
3:00-3:15	80	Anuj Shashimal, Vishaka Subasith , Lahiru Rathnasooriya and Thillini Jayasekara, **Human Tracking and Profiling for RiskManagement**
3:15-3:30	106	Rajagopal A, Nirmala V, Arun M and Andrew J, **Augmentation of human vision to see in the dark by CNN activations in AR**
3:30-3:45	6	Yahya Al-Ashmoery, Hisham Haider, Adnan Haider, Najran Nasser and Mohammed Al-Sarem, **Impact of IT Service Management and ITIL Framework on the Businesses**

MTICTI2021 Program

Day 3 : 06/12/2021	
Time	Agenda
8:00 am – 08:30 am	Registration
8:30 am – 9:00 am	Keynote Speech 16 by: **Assoc. Prof. Dr. Mohammed Al Sarem** Title: **Social network analysis: challenges, issues and future trends**
9:00 am – 9:30 am	Keynote Speech 17 by: **Prof. Dr. Arwa Aleryani** Title: **The Role of the Human Cloud in Shaping the Recruitment Industry**
9:30 am – 9:45 am	Refreshment
9:45 am – 10:00 am	Keynote Speech 18 by: *Dr.Fouad abdul-Razaq* Title: **The role of higher education institutions in the industry Information and Communication Technologies**
10:00 am – 10:15 am	Keynote Speech 19 by: *Eng.Ghamdan Al-Anesi* **Title:** Hosting in Yemen
10:15 am – 10:30 am	Keynote Speech 20 by: *Mr.Abdulbasit Al-Bakri* Title: **Patents and their role in encouraging the ICT industry in Yemen**
10:30 am – 10:45 am	Keynote Speech 21 by: *Eng. Khalid Ahmed Hydar* **Title:** The ICT industry in the national vision
10: 45 am – 11:00 am	Keynote Speech 22 by: *Dr. Ahmed Al-Nashri* **Title:** Investment prospects in the information and communication technology industry in Yemen
11: 00 am – 11:30 am	Discussion
11: 30 am – 12:30 pm	Closing ceremony (closing speech, Scientific Research Award, Announcement of best paper Award and Certificates)

MTICTI2021 ABSTRACTS

Abstract

Coexistence analysis between 5G NR and LTE network at 1.8 GHz

Danyang Li (ZTE), Dong Zhou (ZTE) and Liyuan Zhong (ZTE).

With the rapid growth of 5G new radio (NR) network, efficient spectrum resource utilization is one of the current biggest challenge. To solve this problem, the operator is beginning the construction of spectrum refarming which may cause the interference issue among different services. Thus, the study on interference coexistence between 5G NR and other networks is becoming more and more significant. Based on existing communication networks, this paper presents the sharing studies with 5G NR frequency division duplexing (FDD) and LTE time division duplexing (TDD) in 1.8 GHz band. Firstly, we provide an academic method, then we use Monte Carlo method and apply system-level simulation. Finally, we reach the conclusion that whether in co-location and non-co-location topology, based on necessary adjacent channel interference ratio (ACIR), the coexistence of 5G NR FDD and LTE TDD can be achieved in 1.8 GHz band.

Keywords: Coexistence analysis, 5G NR FDD, LTE TDD, ACIR, 1.8 GHz

Abstract

Paper ID: 05

Artificial Intelligence and Internet of Things based Women security system

Deepti Kulkarni (Oriental University) and Dr.Rashmi Soni (Oriental University).

There are various crimes happened in the world against women. Women are considered to play a vital role in the society. Crime rate against women & children are increasing day by day. It is mandatory to face such situation strongly with the help of women security system, which provide us first aid to save herself. This paper reviews different women security system by their technology, platform, functionality & compare different system on different criteria. This review is useful for creating a powerful security system. This research paper also explains the proposed system based on AIOT.

Keywords: AI, IOT, Women security system

Abstract

Paper ID: 06

Impact of IT Service Management and ITIL Framework on the Businesses

Yahya Al-Ashmoery (Al-Razi University), Hisham Haider (Al-Razi University),
Adnan Haider (Al-Razi University), Najran Nasser (Sana'a University)
and Mohammed Al-Sarem (Taibah University).

The use of information technology (IT) in businesses has increased recently because, today, organizations focus on implementing their services and processes with IT concepts to guarantee the quality of business processes and services. Accordingly, it is important for any organization to use information technology service management to develop its capabilities. ITIL stands for Information Technology Infrastructure Library, and it is a collection of best practices for managing information technology and developing IT support and service quality levels. ITIL is the most widely used framework for ensuring that IT services are aligned with business strategy goals, even as those goals shift. When implementing an ITIL system, we should start with the Incident Management Process (IMP). In this paper, the Information Technology Infrastructure Library (ITIL), as well as its mechanisms and components, are discussed.

Keywords: ITIL framework, Incident Management Process, The ITIL service value system (SVS), The Service Value Chain (SVC), Value Stream

Abstract

Web System as support to automate processes of the administrative area of pre-university center

Jean Williams Osco Pupe (Universidad Nacional Mayor de San Marcos) and Igor Aguilar Alonso (Universidad Nacional Mayor de San Marcos).

Technological advances have provided new ways to reduce costs and time in process flows within organizations. However, in the education sector most of them still have monotonous processes that need control and supervision manually, in addition they do not make proper use of these technologies, this does not allow them to improve their workflow. Within these technologies appears the automation of processes that seeks mainly to perform multiple tasks automatically supported by a system or software. Through the use of a web system that allows the automation of certain processes, it will be possible to align the objectives of the institution with the current social situation. The objective of this article is to show the main studies that implement web architectures integrating machine learning technologies, in order to have a comprehensive approach to the current web standard and its integration into new technologies. The methodology used was the search and review of articles that implement web architectures together with machine learning technologies, published in recent years. In the review of articles, a total of 56 articles were obtained, of which 20 were selected and used for the writing of this article. The result of this research is the proposal of a web architecture model that allows the automation of processes and the integration of machine learning based on the main architectures found in the literature review.

Keywords: System web, process automation, web architecture, machine learning

Abstract

Digital Transformation Factors for Architecture in Peruvian Artisan Producer Businesses

Ytalo Ramiro Sánchez Simeón (UNMSM)
and Igor Aguilar Alonso (UNMSM).

Digital transformation is the key piece within any traditional craft business, this digital transformation must be persuaded by relevant factors that allow to successfully achieve this type of digital implementation initiatives. Artisans need to create a digital transformation architecture that allows them to direct, evaluate, monitor the entire process of adopting the digitalization of their businesses to improve the performance of their businesses, generate the appropriate information for decision-making in new markets and achieve desired objectives within the same business. In reality, this does not happen in the artisan sectors, because the decisions they make do not have the advice of specialists in the IT area, not to mention that the information they handle within their artisan ecosystem is scarce. The objective of this article is to collect and show the different most important factors that influence the correct implementation of digital transformation in artisans. For the preparation of the article, a bibliographic review methodology was used, where different scientific articles of recent years were reviewed. As a result, 16 factors were found that influence the digital transformation of artisans, which must be taken into account and receive special attention for the implementation of a correct digital transformation architecture

Keywords: factors, digital transformation, artisans

Abstract

The Role of AI in Choosing Content Social TV at Online Platforms: Youtubers' perspectives

Mohammed Habes (Yarmouk University), Sana Ali (Allama Iqbal Open UJniversity), Mokhtar Elareshi (Al Ain University), Khalaf Tahat (UAE University) and Abdulkarim Ziani (Umm Al Quwain University).

The rapid technological advancement has greatly influenced our daily life, especially, the use of Artificial Intelligence (AI) in digital networks. This study examines the role of AI in choosing Social TV content. A cross-sectional design survey was used with a randomly selected of 300 participants currently having YouTube accounts and prefer watching it though Social TV. Results indicated a strong, positive relationship between interaction, elements, and digital content and AI in Social TV content selection. However, the relationship between interaction and Social TV content selection and AI and Social TV content selection is strongly mediated by the YouTube users. Thus, our respondents expressed customization of settings which help the AI to choose and consider the Social TV content on the YouTube.

Keywords: Social TV, Artificial Intelligence, YouTube, Structural Equation Modelling, Jordan

Abstract

Paper ID: 19

Survey of Micro Fluidic Phased Array Antenna for Beam Steering Techniques

Shakib Abdulahi Osman (uthm), Noorsaliza Abdullah (uthm), Qazwan Abdullah (uthm),
Noran Azizan Cholan (uthm) and Abdul Rashid O. Mumin (uthm).

Spatially versatile radio wire cluster (SAA) is an electronically examined antenna receiving exhibit that can change the actual field its actual area. Ability permits Spatially versatile radio wire cluster to monitor remote channel climate to expand connect limit without utilizing an expanded boundary without using many receive antenna components. components. Reduced and savvy execution of SAA requires a deliberately planned RF supply network that allows emanating receiving antenna components to be repositioned while other RF and computerized hardware stay fixed. This composition presents a new RF feed organization and shows the primary trial check of SAA by utilizing microfluidic-based reconfiguration. An extensive audit of ongoing methodologies and strategies of microfluidic over 5G is introduced in this paper. The objective of the investigation was to utilize water-based fluidic stage shifters to make a component fix receiving antenna where the pillar directing could be constrained by filling a few water channels for every antenna and a few strategies were proposed by numerous researchers. These methods have been characterized to see classifications including the utilization of making a stage Shifter and Combining the Array and Phase Shifter. Not many great papers were investigated and assessed in each gathering for confirmation of the idea. At last, an examination between these methods was performed

Keywords: Beam steering, technique, antenna microfluidics, phased arrays

Abstract

BNC Position Estimation for an Automated Testing Facility in the Production of Oscilloscope

Guan Tan Zhen (Universiti Sains Malaysia (USM)), Abdul-Malik H. Y. Saad (Universiti Teknologi Malaysia), Antar Shaddad H. Abdul-Qawy (SUMAIT University), Adnan Haider Yusef Sa'D (Alrazi University), Nayef.A.M. Alduais (Universiti Tun Hussein Onn Malaysia), Abdullah B. Nasser (Hodeidah University), Waheed Ali H.M. Ghanem (Universiti Malaysia Terengganu) and Bander Ali Saleh Al-Rimy (Universiti Teknologi Malaysia).

Oscilloscopes may contain manufacturing defects in their BNC ports and need to be checked and tested one-by-one before packaging them. The testing process is still done manually by plugging a BNC connector into the BNC ports. Therefore, this work aims to develop an automatic inspection system that can be installed in the testing area in the plant of oscilloscope production. To do so, it needs to find the accurate position of each BNC and its distance from the installed camera on the tester robot arm. This information can be given to the robot arm to do the correct movement. A prototype system is developed based on Hough Circle Detection algorithm to identify the BNC ports. The experimental results show that the developed method is able to determine the distance from the center of the BNC port to the center of the camera, and the corresponding angle between them.

Keywords: Hough Circle Detection, Position Estimation, Object Detection

Abstract

Classification of Quranic Topics using SMOTE Technique

Bassam Arkok (International Islamic University Malaysia) and Akram Zeki (International Islamic University Malaysia).

This paper aims to classify the Quranic topics that have a difference in their number of verses by applying SMOTE technique. SMOTE is used to rebalance the samples of minority classes in these Quranic topics. Moreover, SMOTE is combined with many classifiers to choose the best technique for the Quranic classification. Also, the k-values of SMOTE were analyzed in this research to choose the best values for the Quranic datasets. The results showed that the Voted Perceptron classifier was the best technique when it was implemented with the SMOTE method to classify the Quranic topics. Also, it is concluded that the best numbers of SMOTE were 1 and 10 to obtain the higher performance of the Quranic classification.

Keywords: Imbalanced Classification, Resampling techniques, Quran, Topics, SMOTE

Abstract

Paper ID: 22

Detecting Parkinson Disease by Sketching drawings Using Artificial Intelligence

Haleema Alkhorasani (development), Yasmeen Alqadi (development)
and Ahmed Y. A. Saeed (development).

Parkinson's disease is a disorder that occurs in the nervous system, which in turn affects the motor system. This disease has become a problem for doctors of the world because it has covered nearly 10 million people in the world, and is less prevalent in males its motor symptoms appear as a result of the death of cells in the brain region. This results in insufficient dopamine in the range of motion. There are several methods for the early detection of this disease. In this paper, we used the graphics technique, but differently, and that has done by making the patient draw some specific drawings, and then the features were extracted. Three machine learning algorithms were used (SVM, KNN, MLP). The results of the algorithms were compared and we found that SVM has the best result with an accuracy of 91.02%. In the future, we plan to improve the results by processing data to get a better result through the use of deep learning.

Keywords: Parkinson's Disease PD, Machine learning, Patient People, dopamine, nervous system

Abstract

Paper ID: 25

Sensorless Speed Control of Induction Motor Drives Based MRAS with Fuzzy Logic Controller

Qazwan Abdullah Tarbosh (Sanna university).

Induction Motor (IM) drive requires speed and current measurement to form a feedback control system. The accuracy of the measurement may affect the drive performance, therefore sensorless drive are introduced which reduce the cost and improve the drive accuracy. In this paper, a simple, but effective sensorless speed based MRAS -Flux model for IFOC IM drive with FLC speed controller is proposed. Unlike other existed methods, the proposed method utilizes a less complicated speed estimation method with an adaptive speed controller (FLC). Performance investigations of the proposed method considering various speed operations and load disturbance using Matlab/Simulink are discussed. The simulation result shows the robustness of the proposed sensorless method with a satisfactory performance during rated, low and load speed operations.

Keywords: IM, sensorless, fuzzy, MARS, vector control

Abstract

Planning LTE Network at Ibb City

Abdullah Ali Abdo Hasan (Ibb University).
Planning LTE Network at Ibb City

This paper aims to minimize the cost of the radio link and the network infrastructure or Long Term Evolution-Advance (LTE-A), taking into account the distribution of subscribers, the location of the area to cover and the quality of service constraints. The coverage and capacity planning, and its optimization are proposed for the urban area at Ibb city, Yemen. This paper involves hands-on simulation exercise on planning and optimization of LTE-A network using ATOLL planning software tool. After LTE optimization by using Automatic Cell Planning (ACP), Automatic Frequency Planning (AFP), Monte-Carlo algorithm and neighbor planning, the coverage, signal level and throughput have been improved. In addition, overlapping has been reduced. The optimization process improves the Capacity: Load Balance from 15.60% % up to 38.84%, Capacity: Average Load Improvement is 59.42%. Carrier-to-Interference-and-Noise Ratio (CINR) from 65.04% up to 77.6%, and total traffic supported by the network increases after the optimization by 30%. We wished to provide all subscriber at busy hour but reject must have been happening of about 4% due to Congestion. Because, we had made trade-off between the Cost and supporting service. However, we assigned the highest priority to VoIP due its importance and need low data rate compared to other service.

Keywords: LTE, 4G, planning, Network

Abstract

A Yemeni Sign Language Recognition Using Deep Learning

Basel Dabwan (Dr. Babasaheb Ambedkar Marathwada University, Aurang-
abad ,India) and Mukti Jadhav (Shri Shivaji Science & Art College ,India).

— In fact, there are more than 466 million people are Deaf and Dumb, i.e., 5% of the global population. The core problem is how people with disabilities communicate with each other and with normal people, how they get learning or interact with activities around them. Sign language is the bridge to eliminate the gap between them and other people. Developing an automatic system to recognize sign language has a lot of challenges especially in Yemeni. Numerous forms of studies were carried out on sign language structures however for Yemeni sign language may be very confined. In this study, a Yemeni Sign Language distinguishes model that uses the modern deep learning algorithm: Convolution Neural Network (CNN). The dataset includes 16,192 images for the sign and alphabets of the Yemeni sign language, it is gathered from 40 people. Different distances and different variations were existing in images that can remove using pre-processing methods to rub noise, position the image, etc. The results show that the convolution neural network (CNN) achieved an accuracy of 94%.

Keywords: Sign language, Convolution Neural Network, Gesture recognition, Image processing, Machine learning

Abstract

Paper ID: 28

A Theoretical Framework For Telecom Internet of Things in Developing Countries

Manal A.Areqi (Sanaa University), Mansoor N.Ali (Sanaa University) and
Ammar Thabit Zahary T.Zahary (Sanaa University).

The Internet of things (IoT) works through different types of communication networks. Providing IoT services by operators will bring benefits to IoT and operators alike. Operators cannot indispensable to absorb new technologies such as the IoT and must be speeding up their introduction, as it is the growing interest of the end-user. Furthermore, operators will let themselves out of the technical market. The operator will get an opportunity to invest, which will bring him benefits, also IoT will benefit from the maturity and experience of telecom operators. So authors of this paper developed a theoretical framework that helps operators direct their interest in IoT solutions in developing countries. This framework includes the factors affecting the provision of IoT services, whether they are negative or positive also the services. The researchers relied on the previous literature review to conclude this framework. The researchers also concluded that operators have significant untapped opportunities in providing these services.

Keywords: Framework, Telecom, IoT, Factors, Architecture

Abstract

Learning analytics toolset for evaluating students' performance in an E-learning Platform

Yahya Al-Ashmoery (Al-Razi University), Najran Nasser (Sana'a University),
Adnan Haider (Al-Razi University) and Hisham Haider (Al-Razi University).

Learning analytics is the process of measuring, collecting, analyzing, and reporting data on learners and their contexts in order to better understand and optimize learning and the environments in which it takes place. The assessment of student's performance is a difficult and time-consuming undertaking for teachers and researchers in e-learning environments. The majority of LMS frameworks, whether commercial or open-source, lacks adequate access tracking and log analysis facilities. They also lack support for a variety of features such as evaluating participation levels, analyzing interactions, visually portraying current interactions, and semantic analysis of message content. The number of participants, non-participants, and lurkers in an ongoing conversation is difficult and time-consuming for instructors and educationalists to estimate. In text-related research and applications, such as text mining, web page retrieval, and dialogue systems, semantic similarity measurements of text are becoming increasingly relevant. This study will introduce a novel Learning Analytics system for Learning Management Systems (LMS) that will help teachers and researchers identify and analyze interaction patterns and knowledge development of participants in ongoing online interactions.

Keywords: LMS frameworks, learning analytics, text mining, semantic similarity, e-learning environments

Abstract

Paper ID: 31

Identification of Pneumonia Symptoms in Covid19 patients using Transfer Learning Approach

Ebin Pm (University Institute of Engineering, Chandigarh University) and Dr. Raman Chadha (University Institute of Engineering,Chandigarh University).

COVID 19 pandemic affected more than 1 million people all over the world and killed more than 10 lakhs. The Covid 19 infection may develop pneumonia as its aftereffect and it may lead the patient to a critical situation or even death. Therefore, it is very important to identify the symptoms and presence of pneumonia in Covid 19 affected patients. Here we are using the transfer-learning method to detect the presence of Pneumonia, and the architecture used is VGG16. The dataset used for this study is chest X-Ray images from Kaggle, which is a publically available open dataset.

Keywords: VGG16, Transfer-Learning, Deep Learning, Covid19, X Ray images

Abstract

Paper ID: 35

A Review on Advanced Analytical Techniques for Classifying the Botanical Origins of Honey

Mokhtar Al-Awadhi (Dr. Babasaheb Ambedkar Marathwada University) and Ratnadeep Deshmukh (Dr. Babasaheb Ambedkar Marathwada University, Aurangabad).

Honey botanical origin classification is essential to honey authentication and honey botanical origin mislabeling prevention. Recently, several researchers have used advanced analytical techniques for classifying honey floral sources. These methods incorporated different acquisition technologies and machine learning (ML) models. In this paper, we review state-of-the-art approaches for classifying honey botanical sources. We discuss the various technologies used for measuring honey constituents, honey physical and chemical properties, and technologies for capturing honey spatial and spectral data. Also, we discuss the ML techniques and their classification performances. We give recommendations for future work at the end of this paper.

Keywords: honey authentication, honey botanical origin classification, machine learning, spectroscopy

Abstract

Paper ID: 37

A Review on Gamification for Information Security Training

Karzan H. Sharif (Qaiwan International University-UTM Franchise, Sulaimani-
yah, Iraq) and Siddeeq Y. Ameen (Duhok Polytechnic University, Duhok, Iraq).

Everyday a huge number of user attacks occur frequently. There are vast prevention tech-
niques and responses, but these techniques effective only if used efficiently. The efficiency
of information security training programs must be increased by encouraging employees to
make an effort to transfer the learned skills into their daily work. Providing effective training
programs is one of the essential tasks that organizations have to fulfill. Gamification provides
positive results, because it is able to counter existing training weaknesses, such as interac-
tion, motivation and engagement. This review paper aims to show how training methods
adopted for raising cyber security awareness, how most effective method can be selected
and what are the gaps in those training methods that used to deliver cyber security informa-
tion awareness?

Keywords: Gamifications, Cyber Security Awareness, Security Training, Game based Train-
ing

Abstract

Paper ID: 41

Internet of Things: Threats, Security Requirements, Solutions with Blockchain and Context-Aware and Challenges

Dana Doghramachi (EPU) and Siddeeq Ameen (DPU).

Smart cities, smart transportation, smart healthcare, and smart everything are all composed of the Internet of Things (IoT), which connects a wide range of heterogeneous devices. The IoT has emerged as a sector with enormous impact, potential, and growth, with billions of devices expected to connect to the Internet in the coming years. In contrast to other end-point devices such as smartphones, laptops, and PCs, most IoT devices are more sensitive to assaults. Because of the various specifications and heterogeneity problems, traditional protection primitives cannot be explicitly applied to IoT technologies. Thus, the paper aims to investigate these critical and essential issues regarding IoT threats, security requirements and challenges for IoT with special emphasis and relation to IoT layered architecture. Next, the paper addresses various existing IoT security technologies aimed at achieving high security for IoT applications. Also addressed how two methods, blockchain, and context-aware, can help in solving many IoT security issues. Finally, the paper assesses and suggests recommendations for future research in the field of IoT security.

Keywords: Blockchain, Context-Aware, IoT security, IoT, IoT threats

Abstract

Paper ID: 43

A Review on Modern Analytical Methods for Detecting and Quantifying Adulteration in Honey

Mokhtar Al-Awadhi (Dr. Babasaheb Ambedkar Marathwada University) and
Ratnadeep Deshmukh (Dr. Babasaheb Ambedkar Marathwada University, Au-
rangabad).

Honey has been a target for adulteration with various inexpensive industrial sugars. Discriminating between authentic and adulterated honey is a challenging problem for consumers. Several studies have proposed different methods for detecting adulterated honey. Traditional methods, such as stable carbon isotope ratio analysis, chromatography, and physicochemical parameter analysis, provided good qualitative and quantitative detection. These technologies utilize different approaches, such as profiles of honey constituents, physical and chemical properties of honey, and specific marker traces for the sugar adulterants. Spectroscopy and hyperspectral imaging provided fast and nondestructive detection with no sample preparation. Sensory techniques, such as low-cost optic fiber sensors, demonstrated their effectiveness in quantifying honey adulteration. This paper discusses various technologies for detecting and quantifying honey adulteration. We also discuss the machine learning models and their performance in this research.

Keywords: honey adulteration detection, machine learning, electronic-nose, electronic-tongue, physicochemical parameter analysis, spectroscopy

Abstract

Paper ID: 49

Credit Card Fraud Detection System using Machine Learning Algorithms and Fuzzy Membership

Ahmed Qasim Abdulghani (University of Altınbaş), Osman Nuri Ucan (University of Altınbaş) and Khattab Ali (University of Anbar).

Fraudulent transactions have skyrocketed in tandem with the rise in Credit Card users. Since legitimate and fraudulent transactions look so similar, it's nearly impossible to tell one from the other. In this paper, we propose a fraud detection system that makes use of Machine Learning (ML) and a fuzzy membership function to identify fraudulent transactions. We used Logistic regression(LR) and Linear Discriminant Analysis (LDA) machine learning algorithms to create models for the proposed system. We used a dataset from Kaggle for training and testing these models. For evaluating the proposed system models performance, we used the confusion matrix, accuracy, precision, f1, recall and AUC. We compared the results after and before applying the fuzzy membership function. The results showed that the efficiency of the proposed system increased after the use of the fuzzy membership function.

Keywords: Credit Card, Fraud Detection, Machine Learning, Logistic Regression, Linear Discriminant Analysis, Fuzzy Membership.

Abstract

Paper ID: 50

A Smart Detection System for Internet of Things

Zainab Hussam Abdaljabar (University of Altinbas), Osman Ucan
(altinbas university) and Khattab Ali (University of Anbar).

The Internet of Things (IoT) has been quickly growing in recent years, intending to have a wider impact on everything from ordinary life to large industrial systems. Regrettably, this has drawn the attention of hackers, who have made IoT a target of malicious activity, potentially exposing end nodes to attack. Due to the vast number and variety of IoT devices, protecting the IoT infrastructure using a typical intrusion detection system is a difficult undertaking. To safeguard IoT devices. We studied data flow in an IoT context in this work using two machine learning classifiers: KNN (K-Nearest Neighbors) and DT (Decision Tree). For each method, we determined the Error Rate, Accuracy, Precision, Recall, and F1 score. We received outstanding results (100%) when we combined these two classifiers. We have a high rate of attack detection. A concise analysis of the findings is provided.

Keywords: IDS, IoT, DL

Abstract

New Intrusion Detection System to Protect MANET Networks Employing Machine Learning Techniques

Marwa Mohammed Khalifa (altinbas university), Osman Ucan (altinbas university) and
Khattab Ali (University of Anbar).

The Intrusion Detection System (IDS) is indeed one of the technologies available in the field of protection for mobile ad hoc networks. This system works to monitor the network and detect intrusion from malicious nodes, which aims at passive (eavesdropping) or positive attack to disrupt the network, so most of the challenges facing the establishment of a system have been listed., in this paper, a new Intrusion detection system we proposed, using three machine learning(ML) techniques: Random Forest (RF), support vector machines and Naïve Bayes(NB); to classify nodes. The data set was generated by the simulator network simulator-2 then pre-processed it and spilt data set it into two sets 67% for training and 33% for testing and obtaining preliminary results. Then we randomly selected the features from the dataset for reducing the time complexity and we got good results, the best results and the various performance measures used before and after applying the feature selection were for the (RF) algorithm.

Keywords: intrusion detection system, mobile ad hoc network, Machine Learning, Random Forest, support vector machine, Naïve Bayes.

Abstract

Caching in 5G Mobile Communication System

Salar Ahmed (Erbil Polytechnic University), Siddeeq Ameen
(Duhok Polytechnic University) and Subhi Mohammed (Duhok Poly-
technic University).

Mobile core networks are facing exponential growth in traffic and computing demand as smart devices and mobile applications become more popular. Caching is one of the most promising approaches to the challenges and problems. Caching is a technique for reducing backhauling load in wireless networks by caching frequently used information at destination node. Thus, research in to mechanism of decreasing the load of backhaul traffic and decreasing delay in 5G networks can be recognized in a radio access network (RAN) by caching near to users. Furthermore, proactive caching is an important technique to reduce the delay of storing planned content needs, relieving backhaul traffic and to alleviating the delay caused by handovers. The fundamental concept of this approach is that the content produced by efficient end users should be popular and pro-cached for D2D (device-to-device) networks connectivity. The paper investigates the caching types and compared caching techniques improvement with other methods used to improve 5G performance. The problems and solutions of caching in 5G networks are explored in this research. Caching research showed that the improvement with caching will depend on load, cache size, and the number of requested users can be get the required results by a proactive caching scheme and also major decreasing in the traffic and total network latency can be achieved.

Keywords: 5G caching, proactive caching, Edge caching, backhaul offloading, D2D communications, Content Delivery Networks

Abstract

Paper ID: 54

An Effective Algorithm for Mining Interesting Maximal Association Rules

Fatima Al-Kebsi (Thamar University), Khalil Al-Wagih (Alrazi University) and Basheer Al-Maqaleh (Thamar University).

Most existing algorithms focus on Association Rules Mining (ARM) based on traditional support-confidence framework. These algorithms produce a large number of redundant rules, the majority of which are irrelevant to the user or do not imply a correlation relationship between related itemsets. In this paper, an effective algorithm that incorporates the generation of Maximal Frequent Itemsets (MFIs) that ensures removal of redundancy and correlation analysis has been adopted as an interesting measures is suggested. The proposed algorithm integrates the support-all-confidence measures as a new constraint framework to be pushed deep during the mining process of MFIs in order to generate a reduced and complete set of All-Confident Correlated Maximal Frequent Itemsets (ACCMFIs) directly from large datasets. Consequently, the generated ACCMFIs are considered as a new basis for discovery of Interesting Maximal Association Rules (IMARs). The proposed algorithm has been developed, and the experimental results demonstrate its utility and effectiveness.

Keywords: support-all-confidence framework, all-confident correlated maximal frequent itemsets, interesting maximal association rules

Abstract

Review and Evaluation of End to End Video Compression Based on Deep-Learning

Hajar Yaseen (Duhok Polytechnic University) and Siddeeq Ameen (Duhok Polytechnic University).

Recent years have shown exponential growth in video processing and transfer through the Internet and other applications. With the restriction on bandwidth, processing and storage there is an extensive demand for end-to-end video compression. Many conventional methods have been developed to compress video. However, with the extensive use of Artificial Intelligence, AI, such as Deep Learning (DL) have emerged as a best-of-breed alternative for performing different tasks have been also been used in the option of improving video compression in last years, with the primary objective of reducing compression ratio while preserving the same video quality. Evolving video compression research based on Neural Networks (NNs) focuses on two distinct directions: First; enhancing current video codecs by better predictions integrated even in the same codec framework, and second; holistic end-to-end VC systems approaches. Although some of the outcomes are optimistic and the results are well, no breakthrough has been reported previously. This paper review of new research work, including samples of few influential articles that demonstrate and further describe the various highlighted issues in the aria of using DL for end to end video compression.

Keywords: Deep Learning, Neural Networks, Convolutional Neural Networks, Video Compression, Intra-Prediction, Inter Prediction

Abstract

Students' Perception of Online Learning during Covid-19 Pandemic at Al-Ahgaff University, Yemen: A Survey

Hamzah Alaidaros (Faculty of Computer Science and Engineering, Al-Ahgaff University, Mukalla, Hadramaout, Yemen), Ahmed Kherd (Department of Mathematics, Al-Ahgaff University, Mukalla, Hadramaout, Yemen) and Hussein Ali Al-Aidroos (Faculty of Arts and Humanities, Al-Ahgaff University, Mukalla, Hadramaout, Yemen).

The pandemic of Coronavirus (Covid-19) has forced universities worldwide to implement online classrooms instead of the conventional classroom. In this direction, Al-Ahgaff University, Yemen, is the leading university that started adopting online learning during the Covid-19 pandemic. The main aim of this study is to investigate the perception of Al-Ahgaff students in the alternative online learning mode. Data were collected through an online survey involving 119 students and analyzed by using thematic analysis. The students' perceptions were recorded in terms of problems faced and advantages yielded from implementing online learning. The results reveal that using online learning has several benefits, and it is the best way during the Covid-19 pandemic. However, students confirm that they faced different obstacles, such as electric disconnecting, weakness of the Internet, and difficulty in discussion with lecturers. It is hoped that the current study's findings could be stimulated further discussion to overcome online learning problems.

Keywords: Covid-19 pandemic, online learning, Al-Ahgaff University, Yemen

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المؤتمر الدولي الأول للاتجاهات الحديثة في صناعة تقنية المعلومات والاتصالات

Abstract

Paper ID: 58

Role of Virtual Reality in Improving Students' LMS Experiences: A Structural Equation Modelling Based Study

Dr Saadia Anwar Pasha (Allama Iqbal open University, Islamabad), Humaira Sharif (Associated Press of Pakistan) and Enaam Youssef Mohammed Youssef (Ajman Univcersity, UAE- Ain Shams University Egypt).

Learning Management System is not a new concept, yet it has gained much more focus during the fast technological advancement. Especially, the development of Virtual Reality and Augmented Reality, students enhance their educational experiences on Learning Management systems. This study also focuses on examining the role of Virtual Reality in improving the students' Learning Management System in Pakistan. The researcher adopted a cross-sectional design and analyzed the gathered data by using an Integrated Semi-Artificial Neural technique. By using the Structural Equation Modelling (SEM), findings indicated a strong, significant relationship between Virtual Reality, Expectation Confirmation (t= 9.2016, p < 0.000), Attitude (t= 12.082, p < 0.000), and Knowledge Acquisition (t= 11.792, p < 0.000. However, the relationship between Behavioral Intention, Expectation Confirmation (t= 1.402, p < 0.451) and Attitude (t=.753, p < 0.161) remained insignificant. On the other hand, the proposed relationship between Knowledge Acquisition and Behavioral was strongly significant, with the t-value at 7.836 and p-value at 0.000. Finally, results revealed a strong, significant relationship between Behavioral Intention and Improved Learning Management System Experiences with the t-value at 10.474 and p-value at 0.000. Thus, this article concluded that it is important to develop and incorporate Virtual and Augmented Reality in education. Especially when the students depend on digital learning platforms, Virtual Reality adoption improves their learning experiences. The researcher recommends using a learning management system as powerful educational software to facilitate the digital learning experiences, as it has a primary focus on helping the students, teachers, and educational institutions, to interact, inform, educate, and keep educational administrations connected and updated about the current educational trends and activities.

Keywords: Virtual Reality, Learning Management System, e-Learning, Pakistan

Abstract

Paper ID: 61

Towards the design of pre questionnaires to promote information privacy protection awareness

Hanifa Abdullah (UNISA).

methods. Many organizations have well developed information privacy protection mechanisms in place but there are still many organizations that fail to proactively prepare themselves in terms of a rigid organizational information privacy protection program. The same applies for individuals who lack the required knowledge to proactively protect their personal information from being compromised and therefore fall victims to data breaches. For organizations, a data breach can cost the organization millions in terms of recovery expenses and operational interruptions and can cause serious reputational damage to individuals. The objective of this study is to use an honors project presented by the School of Computing at the University of South Africa (UNISA) to promote information privacy protection awareness. This is by means of creating a pre questionnaire for different contexts for organizations and individuals to elicit their current level of understanding regarding information privacy protection awareness. This will serve as a preliminary step for the development of an artefact to promote information privacy protection awareness and the subsequent evaluation of the artefact by means of a post questionnaire. The creation of pre questionnaires will also serve as guidance to students who experience difficulties in their literature review and identifying a suitable context for their study.

Keywords: data breach, privacy, information privacy, information privacy protection awareness

Abstract

Paper ID: 67

Optical Colored Image Compression Using RGB Laser Light: Simulation Results

Abdulsalam Alkholidi (Canadian Institute of Technology (CIT)).

Theoretical image compression could have the ability to effectively reduce the data size by eliminating undesirable information to consequently get more space as well as time for hastening transmission. The objective of the proposed approach is to introduce a new algorithm for color image compression using RGB laser beams. We present the computer simulation results of a variety of colored images. Succinctly, the advantages of this approach are simple, fast, straightforward, and can be done numerically or optically. An optical setup for compression/decomposition of colored images has been actually indicated. In addition, illustrative simulations have been given to validate our architecture and evaluate the performance on different types of color images. The aim of this method is oriented towards large-sized images wherever the image is processed as a whole without being divided into blocks. The most important recommendation of this paper is to implement optically the proposed implementation and evaluate the real-time obtained results.

Keywords: RGB light sources, hasten compression, large size images, Fourier plane, optical implementation, CCD camera

Abstract

Error Optimization in Random Number Generation Using ABC Algorithm

Ghadir Alselwi (Sakarya Univerity) and Tuğrul Taşcı (Sakarya University).

Optimization, which has grabbed the interest of researchers, is increasingly important in all processes. In recent years, there has also been a growth in research efforts. The goal of optimization theory is to find the best option in the setting of the objective function. Several algorithms have been launched using swarm intelligence, which is a research branch that models the population of interacting agents or swarms that are able to self-organize. Bees' swarming around their hive is an example of swarm intelligence. One of the most current swarm intelligence-based algorithms, the Artificial bee colony (ABC) algorithm, simulates the foraging activity of honey bees. The ABC algorithm, which is based on honeybee swarm collective intelligence, is composed of three fundamental components: food sources, employed foragers, and unemployed foragers, and it differentiates two major forms of activity in the honeybee colony: recruitment to the food source. When the ABC algorithm is used to optimize multivariable functions, it outperforms some algorithms such as the Genetic Algorithm (GA), Particle Swarm Algorithm (PSO), etc. The primary goal of this study is to demonstrate the relevance of ABC algorithm optimization as a valuable method. In this article, 22 benchmark functions are minimized such as Griewank, Rastrigin, Sphere, Rosenbrock, etc. The experimental results show that ABC algorithm minimized them with a 1.14 error rate, and 98.85 accuracy rate.

Keywords: Artificial Bee Colony (ABC), Swarm Intelligence (SI), Optimization

Abstract

Utilizing Multi-Agent Systems Approach in Firefly Algorithm

Hossein Mirzanejad (Tarbiat Modares University), Taraneh Kamyab (University
of north carolina at charlotte), Ali Mojarrad Ghahfarokhi (University of Michi-
gan), Fatemehalsadat Beheshtinejad (Islamic Azad University) and Arian
Yousefiankalareh (Arizona State University).

Generally, using collective intelligence is one of the interesting topics is researchers of recent years, which its purpose is modeling creatures' simple behaviors and their interaction with the environment and neighbor creatures to obtain more complex behaviors. We could utilize algorithms based on collective intelligence to solve complicated problems like optimization problems. So far, various algorithms have been purposed in this field which firefly algorithm is a variant of these. In this algorithm, each member acts as a better response concerning itself. However, this algorithm has some drawbacks like the consistency of parameters value, lack of balance between local search and global search, and others. On one hand, multi-agent systems are software systems that contain sets of agents. These agents perform their tasks together to solve a problem and reach the desired purpose. In this paper, we have tried to utilize a multi-agent system, in addition to meta-heuristic optimization algorithms, to improve the performance of the firefly algorithm to better cooperate warms populations with each other. The results of the experiment show the acceptable performance of the proposed algorithm. Keywords— firefly algorithm, multiagent system, meta-heuristic, collective intelligence.

Keywords: Keywords, firefly algorithm, multiagent system, meta-heuristic, collective intelligence

Abstract

Paper ID: 71

Optimal Compensation of Bouc-Wen model hysteresis using square dither

Hossein Mirzanejad (Tarbiat Modares University), Haitham Daealhaq (University of Kerbala), Ehsan Salajegheh (Tarbiat Modares University), Shahaboddin Seddighi (Tarbiat Modares University), Ali Mojarrad Ghahfarokhi (University of Michigan) and Fatemehalsadat Beheshtinejad (Islamic Azad University).

In this paper, we have studied actuator hysteresis compensation using dither input for robotics and automation systems. To mathematically model hysteresis, we have used the Bouc-Wen model, which is common in engineering fields, to represent the nonlinear behavior of hysteresis. We have used square dither to reduce nonlinear distortion caused by system actuator hysteresis. Under the control system is an integrator and the controller is a proportional type. We have reached an optimum hysteresis control by minimizing a cost function, including all required parameters. According to simulation results, we have shown that tracking will be performed well with appropriate selection of amplitude and frequency of square dither.

Keywords: Bouc-Wen Model, Hysteresis Compensation, Dither Tracking, Machine Learning

Abstract

HarX: An algorithm to detect harassment from real-time messages

Kainat Rizwan (Department of Computer Science, The University of Faisalabad), Sehar Babar (Department of Computer Science, The University of Faisalabad), Sania Nayab (Department of Computer Science, Government College University, Faisalabad) and Muhammad Kashif Hanif (Department of Computer Science, Government College University, Faisalabad).

The field of cybersecurity has a great deal of importance over the digital market for organizations in this modern era. Nowadays all kinds of communications and connections are established by using the internet. Chatting is a main source of communication. The major problem faced by this platform is harassment. User starts to get harassed frequently, he/she just doesn't know what to do and how to take action or how to stop this. The study proposed in this paper mainly focuses on two major areas: machine learning and natural language processing (NLP). The proposed algorithm works upon harassment detection which actively detects harassment over real-time and alert user to take action against it. This algorithm will automatically detect the harassing words by alerting the user and give the right to perform complain against the harasser. For detection mechanism, Naive Bayes algorithm and classification methods are being used along with text mining, and CSV is used for training data elements. The algorithm model has shown results that produce upon negative and positive result range. The range noted for the positive result is between 0-0.5 and for the negative result is between 0.6-1. The result concludes that the algorithm actively detects harassing keywords in chat messages.

Keywords: Machine Learning, Classification, Naive Bayes, NLP, Text mining, Harassment Detection

Abstract

Paper ID: 73

Detection of Adulteration in Coconut Milk using Infrared Spectroscopy and Machine Learning

Mokhtar Al-Awadhi (Dr. Babasaheb Ambedkar Marathwada University) and Ratnadeep Deshmukh (Dr. Babasaheb Ambedkar Marathwada University).

In this paper, we propose a system for detecting adulteration in coconut milk, utilizing infrared spectroscopy. The machine learning-based proposed system comprises three phases: preprocessing, feature extraction, and classification. The first phase involves removing irrelevant data from coconut milk spectral signals. In the second phase, we employ the Linear Discriminant Analysis (LDA) algorithm for extracting the most discriminating features. In the third phase, we use the K-Nearest Neighbor (KNN) model to classify coconut milk samples into authentic or adulterated. We evaluate the performance of the proposed system using a public dataset comprising Fourier Transform Infrared (FTIR) spectral information of pure and contaminated coconut milk samples. Findings show that the proposed method successfully detects adulteration with a cross-validation accuracy of 93.33%.

Keywords: Coconut Milk Adulteration, FTIR Spectroscopy, Linear Discriminant Analysis, K-Nearest Neighbors, Machine Learning

Abstract

Paper ID: 74

Development of a Learning Analytics extension in Open edX

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and Yahya Al-Ashmoery (Dept Information Technology Faculty of Comput-
ing and IT Al-Razi University).

Persistence in online courses remains a concern for various institutions. The case of (Massive Open Online Courses) MOOCs represents a particular situation of online courses with an even higher dropout rate. This type of training highlights problems that have already been identified such as sociological isolation of the learner, loss of motivation, empowerment of the learner, acquisition of identity within a group and appreciation of the group pedagogical progress. In this context, the importance of a follow-up by a human tutor is unanimously recognized by the different a ctors. Despite the numerous services offered by open and distance learning platforms, one of the main difficulties encountered by tutors in this task is to have a sufficient understanding of what the distant learners are doing. One way that seems particularly promising to solve this problem is the exploitation of interaction traces left by learners within MOOCs, and the elaboration of indicators that can help the tutor in monitoring learners' activities. This is why it seems imperative to me to propose a tool to visualize the work accomplished by each learner. The system must provide indicators that help the tutor to appreciate the work of the learners.

Keywords: Learning Analytics, MOOC, Open edx, logs, component, interaction traces

Abstract

Paper ID: 78

A SURVEY ON INTRUSION DETECTION SYSTEM IN AD HOC NETWORKS BASED ON MACHINE LEARNING

Zainab Ali Abbood (Altinbas University), Doğu Çağdaş Atİlla (Altinbas University), Çağatay Aydin Aydin (Ege University) and Mahmoud Shuker Mahmoud (Al-Mansour University College).

The aim of this advance research survey is to perform between intrusion detection and routing in ad hoc networks in wireless MANET network using machine learning techniques. The MANETs are composed of several ad-hoc nodes which are randomly or deterministically distributed for communication and acquisition and to forward the data to the gateway for enhanced communication securely. MANETs are used in many applications such as in health care for in communication; in utilities such as in industries to monitor the state of equipment and detect any malfunction during normal production activity. In general, MANETs take measurements of the desired application and send this information to a gateway, whereby the user can interpret the information to achieve the desired purpose. The main importance of MANETs in area of intrusion detection is that they can be trained to detect the intrusion and real time attacks in the CIC-IDS 2019 dataset. MANETs routing protocols are designed to establish routes between the source and destination nodes. What these routing protocols do is that they decompose the network into more manageable pieces and provide ways of sharing information among its neighbors first and then throughout the whole network. The landscape of interesting libraries and techniques is constantly evolving, and so are the possibilities and options for experiments. Implementing the framework in python helps in reducing syntactic complexity, increases performance compared to implementations in scripting languages, and provides memory safety.

Keywords: Intrusion, MANET, Detection, WSN, SDN, Network, Traffic, Monitoring, Machine Learning, ANN.

Abstract

Human Tracking and Profiling for RiskManagement

Anuj Shashimal (SLIIT), Vishaka Subasith (SLIIT), Lahiru Rathnasoori-ya (SLIIT) and Thillini Jayasekara (SLIIT).

Infectious viruses are conveyed via respiratory dropletsproduced by an infected person when they speak, sneeze, orcough. So, to combat virus transmission, the World HealthOrganization (WHO) has imposed severe regulations such asmandatory face mask use and social segregation in public spaces.The 'Human Tracking and Profiling for Risk ManagementSystem (HTPRM)' is an online application that identifies therisk associated with failing to follow proper health practices.This proposed approach, which is divided into four components,utilizes 'You Only Live Once YOLO(V3)' to detect face-maskdanger, which would be determined based on two factors:wearing the face mask properly and the type of mask (Sur-gical,k95, homemade, and bare). The second phase is to useOpenCV and SSD-Mobilenet to evaluate the value of a one-meter-space(Social Distance) between people. The system recognizes themaximum number of individuals that can be in the vicinity ofthe specific hall that uses YOLO(V3) and image processing asthe third procedure. In the last processing, the system identifieseach person's behavior, classifies it as uncommon or not, andcalculates the risk associated with each category. Finally, thesystem computes the overall risk and generates a warning alarmto notify the user that they are in a dangerous scenario.

Keywords: YOLO (V3), SSD (Single-shot detector), Mobile-net, Open-CV, Image Processing, Open pose, Tenser-flow

Abstract

Paper ID: 92

Federation learning and convolutional neural network based intrusion detection methods

Jiechen Luo (Baoji University of Arts and Sciences Baoji, China) and
Xuelan Yang (Universiti Sains Malaysia 11800 Penang，Malaysia).

Intrusion detection algorithms based on deep learning are currently a hot topic in the field of intrusion detection research, but most of the research focuses on how to improve the algorithms to improve the accuracy of intrusion detection, while ignoring the problem that the limited labeled data generated by a single organization is not enough to train a deep model with high accuracy in practice. The paper proposes a federal learning and convolutional neural network-based intrusion detection method that can expand the data volume by jointly training the model with data sets from multiple participants. The method uses a federation learning framework to design a deep learning-based intrusion detection model. The data dimensionality is first reconstructed by data padding to form two-dimensional data, then the DCNN network is used for feature extraction and learning under the mechanism of federation learning, and finally the model is trained with a softmax classifier for detection. The experimental results show that this method largely reduces the training time and maintains a high detection rate. In addition, the model ensures data security and privacy compared to typical intrusion detection models.

Keywords: Intrusion detection, Federated learning, Deep learning, Convolutional neural networks

Abstract

A Review Paper on Secure Communications in FANET

Khadeeja Sabah Jasim (University of Anbar), Khattab Ali (University of Anbar) and Abdul Kareem A. Najem Alaloosy (University of Anbar).

Unmanned aerial vehicles, also called drones, are small vehicles that fly in the sky and do multiple functions in many areas of life such as industry, agriculture, order delivery, media, and military applications. This paper aims to survey the earlier studies of security communications for UAVs, as well as a brief quick overview of Flying Ad Hoc Network (FANET) Routing Protocols and Attacks. Finally, the results of previous studies are summarized, compared and discussed.

Keywords: Routing Protocols, UAVs communication, Unmanned aerial vehicles, Attack, FANETs

Abstract

Paper ID: 104

A Review Paper on Energy Conservation Strategies in WSN

Sarah Amjad Inad (University of Anbar), Khattab Ali (University of
Anbar) and Salah Sleibi Al-Rawi (University of Anbar).

Wireless Sensor Networks (WSNs) are considered a type of network consisting of small devices that sense environmental and physical phenomena. WSNs have proven their high capabilities in various fields, but there are some challenges facing sensor nodes, such as limited battery power and their communication and storage capabilities. In this paper, a review of recent literature on energy optimization strategies is compressed. The concepts of WSNs, power sources, WSNs node component, Energy Saving Techniques, power consumption were extracted. Finally, the results of previous studies regarding energy improvement were extracted, discussed, and compared at the end of the paper

Keywords: Wireless Sensor Networks (WSNs), Energy Saving Techniques, power consumption, Power sources, WSNs node component

Abstract

Paper ID: 106

Augmentation of human vision to see in the dark by CNN activations in AR

Rajagopal A (Indian Institute of Technology, Madras, India), Nirmala V (Queen Marys College), Arun M (National Institute of Technology, Trichy) and Andrew J (Karunya Institute of Technology & Sciences).

The aim of this paper is to develop a human augmentation solution to enable humans to see in dim light like biological eyes of nocturnal animals.   This paper proposes a new type of AI based Augmented Reality (AR) for human vision enhancement. This paper demonstrates Convolutional Neural Networks (CNN) can not only be used to classify objects in low light, but also can assist humans with an ability to see in the dark by repurposing CNN filters. As Deep Learning is essentially representation learning, CNN filters is employed to re-represent a dark camera image into human viewable convoluted image, which then is displayed on an AR screen. By visualizing intermediate activations of CNN layers, any input image is transformed into its feature maps. These feature maps are easily viewable by human eyes, allowing humans to see in the dark using AR eye glasses. Using a novel Dual Transfer Learning, our experiments show CNN computation graphs can activate salient objects, even under 1/6th of normal brightness without compromising accuracy (< 2%). This result is demonstrated with TensorFlow computation graphs as small as 180,000 neural networks parameters. Thus, the paper establishes a novel approach of augmenting human perception of objects in the dark by repurposing CNN for activating predefined salient objects. The proposed Deep Learning approach is the most efficient technique in terms of compute & battery life. This efficiency also brings us closer to realizing many real-world applications of AI enhanced AR on resource constrained wearable devices.

Keywords: Explainable AI, Convolutional Neural Networks, Visualizing CNNs, Edge AI, Augmented Reality, Human Computer Interaction

Abstract

Paper ID: 107

Stakeholders-Driven Process Mining Methodology for Analyzing Emergency Department Processes

Mohammed Al-Dowail (University of Science and Technology) and Abdullah Al-Hashedi (University of Science and Technology).

The emergency department is the most critical in the hospital. It has a high level of complexity due to the admission of patients with a wide range of diseases and various urgent cases, resulting in a variety of issues such as overcrowding, extended waiting periods, and inefficient resources utilization. Process mining is a new business intelligence framework that focuses on analyzing processes by extracting knowledge from event log. This paper aims to introduce a methodology for analyzing emergency department processes using process mining techniques. It is an extension and based on previous methodologies, with additional phases that suit the complexity of the emergency environment, as well as involve the stakeholder in most phases. This will assist in understanding the wide range of patient paths followed by various groups of patients and provide insight on bottlenecks. Therefore, that leads to improving the processes.

Keywords: process mining, emergency department, information systems, stakeholders

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الجامعة اليمنية الاردنية	عضواً	د.نصر الماوري
جامعة ذمار	عضواً	دماهر السنباني

الجهة	Technical Committee اللجنة الفنية	
جامعة الرازي	عضوا	د. عدنان الجعدي
جامعة صنعاء	عضوا	أ.د. غالب الجعفري
جامعة صنعاء	عضوا	أ.د محمد الصارم
جامعة طيبة	عضوا	أ.د فكري الحميدي
الجامعة اللبنانية	عضواً	أ.د عبدالعزيزالهتار
جامعة صنعاء	عضواً	أ.د مالك الجبري
جامعة صنعاء	عضواً	ا.د. شرف الحمدي
جامعة صنعاء	عضواً	ا.د عبدالماجد الخليدي
الجامعة الاماراتية الدولية	عضواً	ا.د.انور الشميري
جامعة صنعاء	عضواً	د. ناجي الشيباني
الجامعة الوطنية	عضواً	د.موفق البراق
الجامعة الوطنية	عضواً	د.نجران الدولة
جامعة الرازي	عضواً	د. مجاهد الجبر
جامعة المستقبل	عضواً	د. جميل الوصابي
جامعة صنعاء	عضواً	د. عدنان المتوكل
جامعة حجة	عضواً	د. حسان مثني
جامعة الاندلس	عضواً	د. حسن الشيخ
جامعة ذمار	عضواً	د. خالد طاهر الحسيني
جامعة المستقبل	عضواً	د. وديع القباطي
جامعة الرازي	عضواً	د. خالد الوصابي

لجان المؤتمر

رئيس المؤتمر	
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اللجنة الإشرافية	
رئيساً	د. طارق النهمي
نائباً	المهندس. غمدان الأنسي
نائباً	د. منير القاضي
عضواً	م.طه زياره
عضواً	م.عبدالرحمن ابوطالب
عضواً	أ. إبراهيم الشامي
عضواً	د. عبد الوهاب الكحلاني
عضواً	ا.د. نبيل الربيعي

الجهة	اللجنة العلمية(CSP) Scientific Committee	
جامعة الرازي	رئيساً	أ.د. خليل سعيد الوجيه
جامعة الرازي	عضواً	د. يحيى الأشموري
منظمة IEEE اليمن	عضواً	ا.د. عمار الزهاري
جامعة ذمار — جامعة الرازي	عضواً	ا.د. عبد الرحمن مثني
جامعة صنعاء	عضواً	ا.د. شرف الحمدي
جامعة العلوم والتكنولوجيا	عضواً	ا.د. عبد القادر العبادي
جامعة لينكولن ، ماليزيا	عضواً	ا.د. علي عبد الباقي امين
جامعة ماليزيا باهانج	عضواً	ا.د. طاهر حسين رسام
جامعة ذمار	عضوا	أ.د بشير محمد المقالح
جامعة الحديدة — جامعة الرازي	عضوا	أ.د طاهر الرشاحي
جامعة صنعاء	عضواً	ا.د إبراهيم البلطة
جامعة صنعاء	عضوا	أ.د محمد الصارم
جامعة UTM ، ماليزيا	عضوا	د. عبد الملك حيدر
الجامعة اللبنانية	عضواً	أ.د عبد العزيز الهتار
جامعة الرازي	عضوا	د. هشام حيدر
جامعة الرازي	عضوا	د. عدنان الجعدي

المؤتمر الدولي الأول للاتجاهات الحديثة في صناعة تقنية المعلومات والاتصالات

كلمة نقابة تكنولوجيا المعلومات والاتصالات اليمنية

مهندس / محمد احمد الرياشي
رئيس نقابة تكنولوجيا المعلومات والاتصالات اليمنية

بداية، يطيب لي أن أرحب بكم جميعًا في مؤتمرنا اليوم والذي سيناقش عددا من أهم القضايا والبرامج المتعلقة بضمان الاتجاهات الحديثة في صناعة تقنية المعلومات والاتصالات الوطنية.

لقد أصبحت مسألة صناعة تقنية المعلومات والاتصالات مسألة في غاية الأهمية ليس لنا فحسب، بل للعالم بأسره، حيث أصبحنا نعتمد بصورة متزايدة على تقنيات المعلومات والاتصالات، التي نسجت خيوطها في تفاصيل حياتنا كافة، ولم نعاصر من قبل ما نشهده في وقتنا الحاضر، حيث يتغير العالم من حولنا بسرعة مذهلة، مدفوعا بزخم هائل من التكنولوجيا الحديثة.

لقد باتت أنظمتنا اليوم أكثر اتصالاً، وأكثر قابلية للوصول من أي وقت مضى. كما أن لدينا عددا هائلاً من الأجهزة المتصلة بالإنترنت، والتي تزداد ذكاءً مع مرور الوقت. ومع تدشين خدمات الجيل الخامس "5G " فإننا على موعد مع المزيد والمزيد من الأجهزة الذكية في منازلنا، ومكاتبنا، وفي أعمالنا، وفي جميع الأماكن العامة. حيث تتميز الآن، كما يتميز مجتمعنا، بترابطية متزايدة، في الوقت الذي لا نزال نسعى فيه لاستكشاف هذه التقنيات الجديدة وتوظيفها لإثراء حياتنا اليومية.

لقد أدركت قيادتنا الرشيدة منذ وقت مبكر جدا، ضرورة العمل على صناعة تقنية المعلومات والاتصالات بشكل جيد. وتبعا لذلك فقد تم تشكيل الفريق الوطني للسلامة المعلوماتية من قبل مجموعه من المتخصصين والاكاديميون في هذا المجال و بتعزيز التعاون بين القطاعين العام والخاص وصياغة استراتيجية وطنية واضحة في مجال , تقنية المعلومات والاتصالات فضلا عن تطوير سياسات ومعايير وطنية، وإجراء تقييمات لأمن المعلومات، وتوفير البرامج ذات الصلة لمساعدة الجميع على حماية أنظمة تكنولوجيا المعلومات والاصول الالكترونية في القطاعين العام والخاص، وبالأخص الجهات المشغلة للبنى المعلوماتية الحيوية.

لقد تغير مشهد التهديدات الإلكترونية وستتزايد وتيرة هذه التغيرات في المستقبل. وتتسع الاتجاهات التي بات على الأمن السيبراني حمايتها وتنمو بمعدل مذهل تحفزها في ذلك الاتجاهات التكنولوجية الجديدة مثل ربط الأجهزة المحمولة الشخصية مع انظمة العمل، والأجهزة النقالة، والإعلام الاجتماعي، والحوسبة السحابية، وإنترنت الأشياء، وتقنيات المحاكاة الافتراضية.

لقد أصبحت الحاجة لمواجهة تحديات في صناعة تقنية المعلومات والاتصالات ضرورة ملحة في ظل توجهنا نحو اقتصاد قائم على الاتصال والبيانات الكبيرة وانترنت الأشياء. فالحكومات والشركات الكبيرة وحتى الشركات الصغيرة الحديثة الإنشاء أصبحت غير قادرة على تحمل تكلفة الاستثمار بالحلول الغير مجدية لكشف ومعالجة تحديات أمن المعلومات، كما أصبح من الضروري بالنسبة لها أن تعي تأثير أمن المعلومات على استراتيجياتها واستدامتها على المدى الطويل.

ويتجسد هدفنا في هذا المؤتمر الذي تنظمه جامعة الرازي وبتعاون نقابة تكنولوجيا المعلومات والاتصالات اليمنية مؤتمر صناعة تقنية المعلومات والاتصالات هو جمع مختلف القطاعات الاقتصادية، والحكومة، والخبراء الدوليين، لمناقشة أحدث التطورات في هذا المجال الحيوي.

إن مهمتنا اليوم في هذا المؤتمر هو أن نقدم لكم الأدوات والمعرفة التي من شأنها أن تساعد على ضمان بقاء دولتنا آمنة. ولكن يقع على عاتقكم أنتم مسؤولية استخدام تلك الأدوات وتلك المعرفة للتأكد من أن جميع أنظمتنا الحكومية آمنة من مرحلة التصميم حتى التفعيل ومن ثم الاستدامة وفي هذا المقام نحيي نضال الاسرى والمعتقلين في سجون دول العدوان، ونحيي نضال شعبنا اليمني البطل برجاله ونسائه وأطفاله، ونهنئهم ونهنئ أنفسنا بانتصار اخونا المجاهدين والمرابطين في كل الجبهات .

عاش اليمن عزيزا منيعا قويا بوحدته الوطنية ووحدة أبنائه .. عاشت نقابة تكنولوجيا المعلومات والاتصالات ومهنتها .. عاشت اليمن وعاش نضال شعبنا .. الحرية لأسرانا المجد والخلود لشهدانا . .

ختاما، اشكركم على حضوركم ومشاركتكم معنا في هذا المؤتمر والسلام وعليكم ورحمة الله وبركاته,,

كلمة وكيل وزارة التعليم العالي لقطاع البحث العلمي

أ.د/ صادق حسن الشراجي
وكيل وزارة التعليم العالي لقطاع البحث العلمي

نلتقي اليوم في رحاب جامعة الرازي لعقد المؤتمر الدولي الأول في الإتجاهات الحديثة لصناعة تقنية المعلومات والإتصالات - 2021 في إطار تشاركي يجمع كافة المعنيين بمجال صناعة تقنية المعلومات والإتصالات من اجهزة حكومية ورقابية وجامعات اكاديمية ومتخصصين اكاديميين وشركات الاتصالات وتقنية المعلومات ونقابات ونقابات تكنولوجيا المعلومات والإتصالات جميعاً يحدونا الأمل في توحيد الرؤية والمسار ورسم السياسات المشتركة بما من شان ذلك الإرتقاء بمستوى صناعة تقنية المعلومات والإتصالات في وطننا . لا سيما ان حاجتنا اليوم أكثر من أي وقت للمزيد من الشراكة لتحقيق شعار المؤتمر وهو نحو الريادة في صناعة تقنية المعلومات والإتصالات لا سيما وأن العالم سبقنا كثيراً في مجال التقنية والتطور التكنولوجي على مستوى الخدمات والصناعة .

ونحن نلتقي في هذه الفعالية نثمن الروح العالية والمسئولة لقيادة جامعة الرازي في امتلاكها زمام المبادرة لتفعيل عملية البحث العلمي وبما يمثل انطلاقة حقيقية ووثابة لوضع اسس العملية التعليمية المواكبة لأبرز التطورات والتكنولوجيا الحديثة وربط الجوانب النظرية بالجوانب التطبيقية.

حيث سبق للجامعة ان تميزت في هذا الاطار من خلال تبنيها للعديد من انشطة البحث العلمي والمشاركات الخارجية في المؤتمرات العلمية واصدار مجلة الرازي الطبية العلمية المحكمة وتنظيم المؤتمرات والندوات العلمية وها نشاط بحثي ملموس من خلال برامج النشر العلمي لأعضاء هيئة التدريس وامتلاك الجامعة لأول مستودع رقمي لنتاج الجامعة البحثي على مستوى اليمن.

يغمرني التفاؤل في أن تحقق هذا الفعالية التوفيق والنجاح في أعمالها والخروج برؤى وتوصيات وتصورات فعالة من شأنها تحقيق الأهداف الرئيسية التي انعقد المؤتمر لأجلها , وأن تشكل هذه الفعالية محطة فارقة على قاعدة صلبة من الشراكات الاستراتيجية لتأسيس مرحلة جديدة لعملية البحث العلمي على مستوى الجامعات الحكومية والاهلية ومراكز الدراسات التابعة لها وبما يكفل التغلب على التحديات الراهنة التي تواجهها العملية التعليمية .

كلمة الهيئـــة العليــا للعلـــوم والتكنولوجيا والابتكــــار

د. منير عبدالرحمن القاضي
رئيس الهيئـة العليــا للعلـوم والتكنولوجيا والابتكــار

الحمد لله رب العالمين والصلاة والسلام على من بعثه الله رحمة للعالمين محمد بن عبدالله الصادق الأمين صلوات ربي وسلامه عليه وعلى آله الغر الميامين وأصحابه المنتجبين، وبعد. تعد صناعة تقنية المعلومات والاتصالات من أهم المواضيع الحديثة التي يتم فيها استثمار الموارد البشرية والمالية لتحقيق تنمية اقتصادية واجتماعية شاملة على المستوى الوطني، ويلعب الابداع والابتكار في هذا المجال دور محوري للمنافسة في السوق العالمية.

تشكل الموارد البشرية عماد أي خطة لتحقيق التنمية المستدامة ولتطوير الاقتصاد والمجتمع. ويعد بناء القدرات البشرية هو الوسيلة والهدف في عملية تطوير تكنولوجيا الاتصالات والمعلومات، فالأشخاص هم مصدر كل قيمة في مجتمع المعلومات بينما التكنولوجيا مجرد أداة. لذا ينبغي أن يتاح لكل شخص فرصة لاكتساب المهارات والمعارف اللازمة للاندماج في مجتمع المعلومات والاستفادة الكاملة منه. وتتطلب هذه العملية تضافر جهود كل الأطراف المعنية من القطاعات الحكومية والقطاع الخاص ومنظمات المجتمع المدني لتدريب الموارد البشرية وتأهيلها، مع أهمية استمرارية هذه العملية بسبب تطور التكنولوجيا الدائم والازدياد السكاني المستمر والحاجة الدائمة إلى تدريب الأجيال المتعاقبة على التكنولوجيا الحديثة.

لقد أثر تطور تكنولوجيا المعلومات والاتصالات بشكل كبير على نمو المجتمعات وتطورها، لدرجة أنه لا تكاد تخلو مؤسسة أو شركة ناشئة في أي قطاع من تطوير أو ابتكار يعتمد كليًا على تكنولوجيا المعلومات والاتصالات، بما فيها الصناعات والأعمال التقليِّدية؛ حيث تُعد البرمجيات هذه الأيام من أهم مكونات البنية التحتية لمختلف المشاريع في العمليات الإدارية والخدمية اوالإنتاجية والصناعية في المجتمعات الحديثة في إطار الدولة أو المؤسسات أو حتى المنشآت الصغيرة.

تسعى البلدان، بدرجات متفاوتة، نحو بناء مجتمع المعلومات فمصير البشرية بات معلقاً بعناصر غير محسوسة تمثلت في بيانات ومعلومات ونظم وبرامج تمثل مصدر قوه للعديد من دول العالم،. وقد شهدت السنوات الاخيرة في معظم الدول العربية عمليات جادة لإطلاق اصلاحات اقتصادية وسياسية واجتماعية لبناء مجتمع المعلومات والاقتصاد المبني على المعرفة. فاقتصاد المعرفة اصبح يشكل الركيزة الأساسية للتعافي الاقتصادي ونهوض كثير من دول العالم كونه قليل التكلفة وسريع الفائدة. وعلى الرغم من ان عدداً من دول المنطقة قد أمكنها احراز تقدم ملموس في هذا المجال فلا يزال يتعين القيام بمزيد من الخطوات اللازمة للوصول الى هذا الهدف الذي سينعكس ولا شك في رفع مستويات معيشة السكان ومكافحة الفقر وتحقيق التنمية المستدامة.

نتمنى ان تتظافر جهود كافة المؤسسات في القطاعين العام والخاص للمضي قدما في صنع النهضة الرقمية التي ستسهم في تحقيق الرفاهية الاقتصادية والاجتماعية لأبناء اليمن الحبيب.
والله ولي التوفيق

كلمة معالي وزير الصناعة والتجارة

اللواء عبدالوهاب يحيى الدرة

يسـعدني ويشـرفني أن أرحـب بالجميـع فـي افتتـاح أعمـال المؤتمـر العلمـي- الإتجاهــات الحديثـة فـي صناعـة تقتنيـة المعلومـات والاتصـالات- الـذي تنظمـه جامعـة الـرازي بالتعـاون مـع نقابـة تكنولوجيـا المعلومـات والاتصـالات بمشـاركة كوكبـة متميـزة مـن المتخصيـن والمهتميـن فـي القطاعـات المختلفـة ، وخبـراء دوليـيـن لتبادل الأراء والخبرات في مجال تكنولوجيا المعلومات والاتصالات.

فـي عالـم اليـوم أصبحـت صناعـة تكنولوجيـا المعلومـات والاتصـالات واحـدة مـن أهـم مرتكـزات الاقتصـاد الحديـث وأداة فعالـة للاقتصـاد العالمـي، واصبحـت اسـلوب حيـاة للتواصـل لجميـع افـراد المجتمـع وفـي ظـل التحديـات التـي تواجهـا بلادنـا فضـلاً عـن الأزمـات التـي يشـهدها العالـم والتـي تؤكـد أهميـة التحـول الـى العالـم الرقمـي والفضـاء الافتراضـي تفتخـر وزارة الصناعـة والتجـارة دومـا باسـتضافة مثـل هـذه الفعاليـات الهامـة والحيويـة المرتبطـة بالقضايـا الحديثـة والمعاصـرة التـي يعيشـها العالـم اليـوم فـي ظـل الثـورة التكنولوجيـة والمعلوماتيـة، والاقتصـاد المعرفـي وأثمـن عاليـا جهـود جامعـة الـرازي فـي تبنـي هـذا المؤتمـر الاستثنائـي الـذي يبحـث فـي قضايـا وافـاق التطلـع لصناعـة مسـتقبل مشـرق مـن خـلال بحـث امكانيـة وسـبل الاستثمـار فـي هـذا المجـال .

ممـا لاشـك فيـه ان الدولـة تسـعى الـى مواكبـة التطـورات السـريعة والمتلاحقـة التـي تشـهدها الثـورة التكنولوجيـة والاسـتفاد منهـا اسـوة بالـدول الاخـرى وتوظيـف نتائجهـا فـي جميـع القطاعـات العامـة والخاصـة والعمـل علـى تطويـر المهـارات فـي مجـال تكنولوجيـا المعلومـات والاتصـالات وبمـا يسـهم فـي النمـو الاقتصـادي ويخـدم قضايـا التنميـة واسـتدامتها وفـي إطـار توجـه الدولـة نحـو التحـول الـى الاقتصـاد الرقمـي كلفـت وزارة الصناعـة والتجـارة لجنـة خاصـة باعـداد قانـون لتنظيـم التجـارة الالكترونيـة للتعامـل مـع طبيعـة هـذه التحـولات الحديثـة التـي تعتمـد الوثائـق الالكترونيـة بـدلاً مـن الورقيـة، وقـد انجـزت اللجنـة مسـودة اوليـة للقانـون سـيتم تشـاركها مـع كافـة الجهـات المعنيـة للخـروج بصيغـة نهائيـة تلبـي متطلبـات التطـورات الحاصلـة فـي مجـال تكنولوجيـا المعلومـات والاتصـالات بصفـة خاصـة والاقتصـاد الرقمـي بشـكل عـام .

بالتأكيـد ان الحكومـة تشـجع اقامـة الشـراكات بيـن الجامعـات والمؤسسـات التعليميـة والقطـاع الخـاص بهـدف دعـم ورعايـة الابـداع والابتـكار ونشـر الحلـول والتطبيقـات التـي تعتمـد علـى تكنولوجيـا المعلومـات والاتصـالات والبرمجيـات مفتوحـة المصـدر وعلـى وجـه الخصـوص تلـك التطبيقـات المبتكـرة التـي تعتبـر مـن متطلبـات واحتياجات التحول الرقمي .

اتمنـى أن تكلـل أعمـال مؤتمركـم هـذا بالتوفيـق والسـداد وان يخـرج بتوصيـات واقعيـة مـن خـلال المناقشـات والمداولات الجادة للمختصين والمسؤولين وصناع القرار والشـركات العاملـة والخبـراء المحلييـن والدولييـن فـي مجال تكنولوجيا المعلومات والاتصالات..

وفـي الختـام اكـرر خالـص التقديـر لـكل القائميـن علـى تنظيـم هـذا المؤتمـر الحيـوي والهـام ولفريـق العمـل وكل المشاركين من مختلف الجهات الحكومية والقطاع الخاص.

كلمة معالي وزير الإتصالات وتقنية المعلومات

م. مسفر عبدالله النمير

يعـرف العالـم اليـوم ثـورة رقميـة وتكنولوجيـة اكتسـحت جميـع ميـاديـن الحيـاة وعمّـت كل مجالاتـه الاجتماعيـة والاقتصاديـة والثقافيـة ومـن أبـرز المجـالات تأثـراً بالتطـور التكنولوجـي ومـا بـات يعـرف بتقنيـة المعلومـات والاتصالات (ICT) ، نجد مجال التعليم والبحث العلمي بكافة مستوياته.

إن أهمية توظيف تقنيـة المعلومـات والاتصالات فـي المؤسسـات الاكاديميـة والجامعية مسـألة لـم تعـد اليـوم مسـألة اختياريـة، بـل أصبـح مـن المؤكـد ان تحقيـق التقـدم فـي مجال التعليـم والبحـث العلمـي يبـدأ مـن حسـن توظيف تقنيـة المعلومـات والاتصالات فـي هـذا المجال ، ثـم إن جوهـر الصـراع العالمـي هـو السـباق نحـو امتلاك المعرفة وتطوير التعليم والبحث العلمي بشتى الوسائل.

ونحـن فـي وزارة الاتصالات وتقنية المعلومات نـدرك جيـداً أهمية توفير ونشْـر البنية التحتية لخدمات الاتصالات وتكنولوجيـا المعلومـات، وتحقيـق البيئـة الآمنـة والمناسبة تنظيميـاً وخدميـاً لكافة خدمـات تقنيـة المعلومـات والاتصالات ومواكبة متطلبـات الانفجار المعرفـي ومقومـات التنميـة المعرفية والاشـراف المباشـر علـى بنـاء وتطويرهـذه المجـالات وتوجيهها بما يخدم سـوق العمل فـي الجمهورية اليمنية بالتنسـيق مـع أصحـاب المصلحة من وزارات وجامعات ومؤسسسات مجتمع مدني.

ومـن تلك المنطلقـات، نشـير الـى أن وزارة الاتصالات وتقنية المعلومات لديها العديد مـن الخطـوات العمليـة والمشـاريع الاسـتراتيجية المدرجـة فـي خططهـا الاسـتراتيجية الحاليـة والمسـتقبلية التـي ستسـهم فـي تيسـير مجال البحـث العملـي وبنـاء مجتمـع المعرفة وإتاحة الوصـول لهـا، ومنهـا مـا تـم فعليـا البـدء بـه بتنفيـذ الاتصـالات اليمنيـة (YT) لمشـروع النطـاق العريـض اللاسـكي للانترنـت عبـر تقنيـة الـواي فـاي فـي الجامعـات والحواضـن التعليميـة والأكاديميـة فـي الجمهوريـة اليمنيـة، وكذلـك العمـل لاطـلاق الأجيـال الحديثـة للاتصالات (الرابـع والخامـس) فـي القريـب العاجـل، وكذلـك العمـل علـى دعـم وتبنـي اطـلاق سـحب ومنصات الكترونيـة تعليميـة وبحثيـة ومعرفيـة بالشـراكة مـع الجهات المعنيـة فـي التعليم الاساسـي والفنـي والعالـي، كل ذلـك بهـدف إتاحـة الوصـول للمعرفة لكافة شـرائح الباحثين والاكاديميـين والطـلاب ، وهنـاك الكثيـر مـن المبـادرات والسياسـات التـي تتبناهـا حكومـة الإنقـاذ الوطنـي ووزارة الاتصالات وتقنية المعلومـات كجهـة معنيـة ومشـرفة علـى قطـاع الاتصالات وتقنية المعلومات التي تصب وتخدم هذه التوجهات.

نبـارك إقامـة وتنظيم هـذا الحـدث الهـام - المؤتمـر الدولـي للاتجاهـات الحديثـة فـي صناعة تقنيـة المعلومـات والاتصالات MTICTI-2021 والذي تنظمـه جامعة الرازي ، ونثمن جهود وزارة التعليم العالـي والبحث العلمي وقيادتها ودور جميع الجهات المشاركة ومزيداً من النجاح للجميع .

كلمة معالي وزير التعليم العالي والبحث العلمي

أ. حسين علي حازب
وزير التعليم العالي والبحث العلمي

نشـعر بالسـعادة ونحن نفتتـح أعمـال المؤتمـر الدولـي الأول للاتجاهـات الحديثـة فـي صناعـة تقنيـة المعلومـات والاتصالات 2021م، والذي ينعقد تحت شعار؛ " نحو الريادة في صناعة تقنية المعلومات والاتصالات ومواكبة الرؤية الوطنية لبناء الدولة اليمنية الحديثة "، وتنظمه جامعة الرازي خلال الفترة 4-6 ديسمبر 2021م بالتعاون مع وزارات التعليـم العالـي والبحـث العلمـي، والاتصـالات وتقنيـة المعلومـات، والصناعـة والتجارة، ونقابـة تكنولوجيا المعلومات والاتصالات باليمن، والهيئة العليا للعلوم والتكنولوجيا والابتكار.

لقد مثل انعقـاد هـذا المؤتمـر حدثـا علميـا مهمـا يُضاف إلـى سلسـلة الفعاليـات والأنشطة العلميـة والبحثية التي نفذت خلال العام 2021م وتنوعـت فـي محتواهـا ومسـتواها بيـن مؤتمـرات، وورش عمـل، وندوات علميـة، وتنوعـت فـي القضايـا والموضوعـات بيـن أكاديميـة، وتعليميـة، وتكنولوجيـة، طبيـة وصحيـة، وطنيـة، ومجتمعيـة، ومـا لـه علاقـة بالتنميـة وسـوق العمـل، بلغـت حتـى الآن أكثـر مـن (20) نشـاطا علميـا تبنتهـا وزارة التعليـم العالـي والبحـث العلمـي، والمؤسسـات التابعـة، مجلـس الاعتمـاد الأكاديمـي وضمـان جـودة التعليـم العالـي، ومركـز تقنيـة المعلومـات، وعـدد مـن الجامعات الحكوميـة والأهليـة، بشـكلٍ يعكس عكس الحراك للبحث العلمي منذ خمس سنوات.

ومـا زادنـا سـعادة وارتياحـا أن نـرى تفاعـلاً إيجابيـا كبيـرا مّـن قبل جامعاتنا بالبحـث العلمـي خـلال هـذه الفتـرة، ومشـاركة العديـد مـن الجهات الحكوميـة والخاصـة، وهـذه الخطـوة تترجـم المعنـى الحقيقـي للتخطيـط التشـاركي وتبـادل الآراء والأفكار الهادفـة لتزويـد صنـاع القرار بها والاسـتفادة منهـا فـي وضع وتطويـر السياسـات والخطـط البنـاءة، في ظل التحديات والظروف الاستثنائية الراهنة التي يعيشها اليمن.

إن اهتمـام الإرادة الثوريـة والسياسـية، وحكومـة الإنقـاذ الوطنـي، والرؤيـة الوطنيـة لبنـاء الدولـة اليمنيـة الحديثـة بالبحـث العلمـي ضمـن أولوياتهـا واهتماماتهـا، فـرض علينـا فـي الـوزارة ومؤسسـات التعليـم العالـي مضاعفـة الجهد في هذا الجانب.

ومـن هنـا تأتـي أهميـة تظافـر وتكاتـف الجهـود الأكاديميـة والبحثيـة والتقنيـة ومواكبـة التقـدم التكنولوجـي المعلوماتـي والاتصـالات، وهـو الـدور المنـوط بنـا وبـكل المؤسسـات التعليميـة والهيئـة العليـا للعلـوم والتكنولوجيا والابتكار والقطاع الخاص.

فـي الأخيـر نتوجـه بخالـص الشـكر والتقديـر لقيـادة جامعـة الـرازي وكادرهـا الأكاديمـي والفنـي علـى جهودهـم واهتمامهـم فـي إقامـة هـذا المؤتمـر وغيـره مـن المؤتمـرات والنـدوات وورش العمـل إلتـي تقيمهـا بيـن الحيـن والآخـر وبشـكل ملحـوظ لمناقشـة العديـد مـن الموضوعـات والقضايـا المتنوعـة، آمليـن أن يحقـق المؤتمـر غاياتـه وأهدافه، والخروج بالتوصيات اللازمة والمفيدة وترجمتها على أرض الواقع.

والله ولي الهـداية والتوفيـق ،،،

كلمة رئيس المؤتمر

أ.د/ خليل سعيد الوجيه
رئيس جامعة الرازي

يأتي المؤتمر الدولي الأول للاتجاهات الحديثة في صناعة تقنية المعلومات والاتصالات ليشكل محطة مهمة في مسيرة جامعة الرازي، هذه الجامعة التي تمضي نحو المستقبل وفق رؤية واضحة لتكون واحدة من أفضل 5 جامعات على الصعيد الوطني من خلال خطة استراتيجية واقعية خطها العام التوسع والنماء. وعلى ذلك فقد واكبت الجامعة الحداثة في عالم التعليم العالي فقدمت برامج أكاديمية مجودة وسابقت العصر بعدد من البرامج النوعية التي ولدت لأول مرة في رحاب جامعة الرازي وعلى صعيد البحث العلمي فقد رسمت الجامعة خارطة بحثية تستجيب لاحتياجات وطنية فأسبرت مواضيع تمس حقيقة الواقع من خلال البحوث والدراسات ومشاريع التخرج ورسائل الماجستير وكانت السباقة في بناء أول مستودع رقمي للنتاج البحثي. أما في خدمة المجتمع فإن جامعة الرازي وبدون شك تعد رائدة المسؤولية المجتمعية بين الجامعات المحلية.

يهدف هذا المؤتمر بصورة عامة إلى إثارة انتباه كافة الشركاء على مستوى القطاعين العام والخاص إلى واقع وأهمية قطاع المعلومات والاتصالات والفرص الكبيرة للاستثمار في هذا المجال كونه يعتمد بالدرجة الأساس على المورد البشري المبدع والمبتكر وهذا ما يميز شباب اليمن الذين يحتاجون لمزيد من الدعم لتعزيز الجانب المهاري والتفكير الناقد الذي يمكنهم من حل مشاكل الواقع من خلال تقنيات المعلومات والاتصالات. من جهة أخرى يهدف المؤتمر إلى خلق تظاهرة بحثية بمعايير دولية تشجع الباحثين الوطنيين والدوليين للإسهام الحقيقي في بناء الجانب المعرفي لهذا المجال ويشكل محل اهتمام لكافة الباحثين في العالم للمشاركة والنشر.
أجدها فرصة لتقديم الشكر والتقدير لكافة الأطراف والجهات المتعاونة مع الجامعة في تنظيم هذا المؤتمر وهي: وزارة التعليم العالي والبحث العلمي، وزارة الاتصالات وتقنية المعلومات، وزارة الصناعة والتجارة، الهيئة العليا للعلوم والتكنولوجيا والابتكار، الهيئة العامة للاستثمار، نقابة تكنولوجيا المعلومات والاتصالات، معهد مهندسي الكهرباء والإلكترونيات. كما أوجه الشكر والتقدير للجهات الداعمة وهي: شركة يمن موبايل، تيليمن، المؤسسة العامة للاتصالات، البريد اليمني، سبأفون، إم تي إن، إبداع سوفت، يمن سوفت، شركة واي للإتصالات .

كما لا أنسى كافة منتسبي الجامعة الذين واصلوا الليل بالنهار و كان لهم الدور الكبير في نجاح المؤتمر وإيصاله إلى هذا المستوى منذ أشهر وهم جميع الزملاء من رؤساء وأعضاء لجان المؤتمر المختلفة كلاً باسمه وصفته. نرحب بالجميع في رحاب جامعة الرازي ونتمنى أن يسهم الجميع في أعمال المؤتمر بفاعلية عالية، ومعاً نحو الريادة في صناعة تقنية المعلومات والاتصالات.

كلمة مجلس أمناء جامعة الرازي

د. طارق النهمي
رئيس مجلس الأمناء

انطلاقـا مـن رؤيـة جامعـة الـرازي أن تكـون ضمـن أفضـل خمـس جامعـات وطنيـة متميزة بجـودة التعليـم العالـي والبحـث العلمـي وخدمـة المجتمـع، وتجسـيدا لدورهـا الريـادي فـي ترجمـة تطلعـات الرؤيـة الوطنيـة لبنـاء الدولـة اليمنيـة الحديثـة، وتوجهـاً مـع مـا يشـهده العالـم مـن حولنـا مـن انفجـار معرفـي وثـورة معلوماتيـة غيـر مسـبوقة، تـزداد فيـه الحاجـة إلـى اعـداد كـوادر مؤهلة علمياً وبحثياً، في تخصصات نوعية حديثة.

ولذلـك بادرنـا نحـن فـي جامعـة الـرازي إلـى إفتتـاح تخصصـات تقنيـة نوعيـة تعتبـر تخصصـات المسـتقبل كالأمـن السـيبراني والـذكاء الاصطناعـي وتسـعى الجامعـة إلـى افتتـاح تخصصـات أخـرى كإنترنـت الاشـياء والواقـع الإفتراضـي والواقـع المعـزز والأعمـال والتجـارة الإلكترونيـة والحوسبة السحابية، وغيرها.

بالنظر إلـى واقعنا لـم يعـد مقبـولا أن نقـف مسـتهليكن لخدمـات تقنيـة المعلومـات والإتصـالات، أونكتفـي مـن العلـم (فقـط) باقتنـاء الكمبيوتـرات الحديثـة (واجهـزة الهاتـف المحمـول) المتطورة، ونسـتقبل البرمجيـات والحلـول التقنيـة الجاهـزة دون أن نشـارك فـي انتاجهـا، فتتحـول شـعوبنا الى عبيد لمن يملكون أسرار التكنولوجيا الحديثة والاتصالات في العالم.

(نحـن علـى ثقـة كبيـرة) أن تسـاعد مخرجـات المؤتمـر فـي توحيـد الجهـود الوطنيـة المشـتركة لتحقيـق الاهـداف التنمويـة لصناعـة تقنيـة المعلومـات والاتصالات باليمـن، وبمـا يسـهم فـي التقدم نحو مجتمع المعلومات والمعرفة، واكتسـاب مقومات الاقتصاد الرقمـي وردم الفجـوة الرقمية بين المجتمع اليمني والمجتمعات الأخرى المتقدمة.

وأنتهزهـا فرصـة لأوجـه دعـوة إلـى الإسـتثمار فـي صناعـة تقنيـة المعلومـات والإتصـالات فـي اليمـن وبشـكل خـاص الجامعـات يعـول عليهـا افتتـاح تخصصـات تقنيـة نوعيـة تواكـب متطلبـات سـوق العمل وتفتح كما أدعـو حكومتنا الرشـيدة لدعـم الإسـتثمار فـي هـذا المجال الحيـوي مـن خـلال منح المسـتثمرين تسـهيلات وامتيـازات وبمـا يسـهم فـي تحقيـق التنميـة المسـتدامة فـي الوطن.

جدول أعمال المؤتمر

المدة	الفقرة	الوقت	م
	اليوم الأول		
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5 دقائق	القران الكريم	9:00 am – 9:05 am	2
5 دقائق	النشيد الوطني	9:05 am – 9:10 am	3
10 دقائق	كلمة رئيس الجامعة – رئيس المؤتمر أ. د خليل الوجيه	9:10 am – 9:20 am	4
10 دقائق	كلمة عميد كلية علوم الحاسوب وتقنية المعلومات – رئيس اللجنة العلمية د يحيى الأشموري	9:20 am – 9:30 am	5
10 دقائق	كلمة معالي وزير الاتصالات وتكنولوجيا المعلومات م. مسفر النمير	9:30 am – 9:40 am	6
10 دقائق	كلمة معالي وزير الصناعة والتجارة اللواء عبدالوهاب الدرة	9: 40 am – 9:50 am	7
10 دقائق	كلمة رئيس الهيئة العليا للعلوم والتكنولوجيا والابتكار أ. د منير القاضي	9:50 am – 10:00 am	8
10 دقائق	كلمة معالي وزير التعليم العالي والبحث العلمي أ. حسين علي حازب	10:00 am – 10:10 am	9
10 دقائق	كلمة راعي المؤتمر دولة رئيس مجلس الوزراء – رئيس المجلس الأعلى للتعليم العالي أ. د عبدالعزيز بن حبتور	10:10 am – 10:20 am	10
10 دقائق	كلمة المجلس السياسي الأعلى	10:20 am – 10:30 am	11
15 دقيقة	استراحة	10:30 am – 10:45 am	12
30 دقيقة	المتحدث 1: أ. د نور الأشيدي بن مات عيسى العنوان: نهج جديد محتمل لتحسين التباين في صور الإضاءة غير المنتظمة.	10:45 am – 11:15 am	13
30 دقيقة	المتحدث 2: أ. د علي أمين العنوان: مستقبل وادي السيليكون في اليمن	11:15 am – 11:45 am	14
15 دقيقة	المتحدث 3: م. عبدالرحمن أبو طالب العنوان: التعلم الإلكتروني ودور وزارة الاتصالات وتكنولوجيا المعلومات كمزود خدمة في اليمن	11:45 am – 12:00 pm	15
15 دقيقة	المتحدث 4: أ. د. علي ناجي نصاري العنوان: الجيل الخامس للاتصالات	12:00 pm – 12:15 pm	16
15 دقيقة	المتحدث 5: د. عبد العزيز الحوري العنوان: المسابقات الوطنية على طريق رفد صناعة تكنولوجيا المعلومات والاتصالات	12:15 pm – 12:30 pm	17
15 دقيقة	المتحدث 6: م. عامر هزاع العنوان: تطور مساري تكنولوجيا الاتصالات والمعلومات	12:30 pm – 12:45 pm	18
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120 دقيقة	جلسات علمية متوازية	02:00 pm – 04:00 pm	20

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