# **Detailed Curriculum Vitae**

#### Name:

Dr. Md Abdur Rahman

# Citizenship:

Canadian

### **Current Affiliations:**

Associate Professor, Cyber Security and Forensic Computing Department

ISO 27001:2022 Lead Auditor

Certified Information Security Manager (CISM)

Certified Information Systems Auditor (CISA)

Chairman, Industrial Collaboration and Relations Committee, College of Computer and Cyber Sciences, University of Prince Mugrin

Member, Higher Committee for Scientific Research and Graduate Studies

Member, Scientific Council

General Supervisor of the Scientific Research and Postgraduate Studies Department (المشرف العام على إدارة البحث العلمي والدراسات العليا)

Member, Dr. Hussein Elsayyed Center for Scientific Research and Studies

Director, Advanced Media Laboratory

Director, Smart City Research Lab

Associate Fellow, Institute of Industrial Revolution 4.0, National University Malaysia (UKM), Malaysia

External Honorary Fellow, CODA Research Centre, King's College London, UK

Founder, Science and Technology Unit (STU)

University of Prince Mugrin, Madinah Al Munawwarah

Contact: +966561061730

Email: mrahm080@uottawa.ca, m.arahman@upm.edu.sa

#### **Education**

- Ph.D. in Electrical and Computer Engineering, University of Ottawa, ON, Canada, 2010
- M.A.Sc. in Electrical and Computer Engineering, University of Ottawa, ON, Canada, 2005

# PhD Students Supervised

Finished – 3

# Academic and Administrative experience

- Acting Head of the Cyber Security and Forensic Computing Department, College of Computer and Cyber Sciences, University of Prince Mugrin, Madinah Al Munawwarah, KSA, (May. 2021 August 2021)
- **Head of the Cyber Security and Forensic Computing Department**, College of Computer and Cyber Sciences, University of Prince Mugrin, Madinah Al Munawwarah, KSA, (August. 2016 1<sup>st</sup> of September 2019)
- Founder Director and Head, Science and Technology Unit (STU), University of Prince Mugrin (November 2017 present)
- **Director, Department of Scientific Research and Graduate Studies,** University of Prince Mugrin (November 2019 December 2020)
- Member, Scientific Council, University of Prince Mugrin (November 2019 present)
- Assistant Professor, Computer Science Dept., Umm Al Qura University, KSA, (Feb. 2011-Jun. 2016)
- Reviewing Existing Study Plans of all the major programs and find issues, suggest solutions to with respect to the national and international benchmarks. I was the chair of the Committee.
- *I have helped designing Handbook for Forensic Computing and Cyber Security Program*, Software Engineering Program and Computer Science Program.
- I have worked with Cardiff University Reviewer to finalize the Forensic Computing and Cyber Security Program, got it approved by Ministry of Education of KSA.
- I have worked with King Saud University Reviewer to finalize the Software Engineering Program, which is under review by Ministry of Education of KSA.
- I have designed Minor programs in Cyber Security and Forensic Computing
- I have Designed Summer Training Program Handbook and rubrics for UPM.
- I have designed the Graduation Project handbook, Supervisory Committee and Coordination Committee Handbook and rubrics.
- I am the Coordinator for ABET, NCAAA, BCS and NSA-DHS accreditation process for our College Programs.
- I help in designing Mission, Vision, Strategic Objectives, KPIs, Vision Realization Programs, Mapping KPIs with Vision 2030, Afaq and NCAAA defined frameworks.
- I help in designing Learning Outcomes, Student Outcomes, and Program Educational Outcomes.
- I am the coordinator for the College External Advisory Board.
- I help in benchmarking course materials, books, course syllabus and Lab manuals.
- Head, Graduation Project Co-ordination Committee, College of Computer and Information Systems, Umm Al Qura University, KSA, (2011-Jun. 2016)
- Coordinator, Undergraduate Final Year Project, Computer Science Dept., Umm Al Qura University, KSA, (2011-Jun. 2016)
- Course Coordinator, Undergraduate Computer Science Course Curriculum, Computer Science Dept., Umm Al Qura University, KSA, (2011-Jun. 2016)
- Research Associate, Learning and Collaborative Technologies, Institute for Information Technology, National Research Council (NRC), Canada, (2008-2010)

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# Non-academic experience

Network Administrator, Multimedia Communications Research Laboratory, University of Ottawa, Canada, (2004-2010).

### **Delivered Products**

- 1. I have delivered the first AI-powered smart building management system to a commercial Building in the male campus at Madinah Al Munawwarah.
- 2. I have delivered the first AI-powered smart mosque management system to a newly built mosque in Madinah Al Munawwarah.
- 3. I have delivered and deployed the AI-powered automated back-office management system to the Consulate Generate of the People's Republic of Bangladesh at Jeddah.

# Current membership in professional organizations

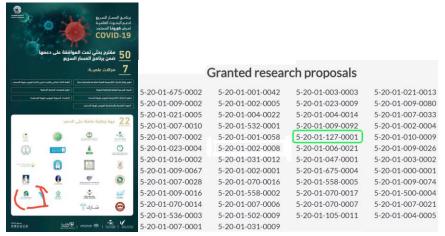
- Senior Member, IEEE
- Member, ACM
- Area Expert in Explainable AI in IEEE ComSoc

# Awarded Research Proposals, Funding Details

- Our UPM team is the winner of the EON Reality Inc. 15M USD grant.
- Winner of the KAUST grand challenge 1M SAR "Ideas and Solutions for Hajj and Umrah 2020" in the category of Crowd Management.



Received a grant worth 500K SAR from KACST with the title "A Multi-Modal Point-of-Care Deep Learning-based AI Framework for COVID-19 Rapid Diagnosis" in May 2020. The project is for 6 months starting from May 2020. Our Project ID is 5-20-01-127-0001



- Received a grant worth **7.5 M SAR** from KSA RDO with title "An IoT Enabled, Blockchain-Based Secure Framework to Provide Context-Aware, Spatio-Temporal Early Warning Services for a Hajj Mass Crowd" in October 2018 [(University of Oxford and King's College London)].
- Received a grant from UK British Council in 2018 with the title "Blockchain for Hajj" with 50,000 GBP in March 2018 [Role Principal Investigator
- Received a grant from KACST with the title "Next Generation Hajj: A smart City Perspective", worth 2 million SAR, in October 2015 [Role- Principal Investigator].
- Received a grant from KACST with the title "A System for Querying, Analyzing, and Visualizing Real-Time Social Network Data", worth 2 million SAR, in August 2014 [Role-Principal Investigator].
- Received a grant from KACST with the title "Query Processing and Optimization in Spatiotemporal Database Systems", worth 2 million SAR, in March 2011 [Role-Principal Investigator].
- Received a grant from KACST with the title "Open-Source Context-Aware E-Learning Framework for Students with Moderate Learning and Intellectual Disabilities", worth 2 million SAR, in March 2011 [Role- Principal Investigator].
- Received a grant from KACST with the title "HajjMemo: Pilgrims-Sourced Data Collection for Documentation and Continuous Improvement of Hajj & Umrah Services", worth 2 million SAR, in March 2011 [Role- Principal Investigator].

### Research Related Awards

- Got the **50K SAR** Best UPM Research Award from UPM for the year **2021**.



- Got Best UPM Researcher Award with 70K SAR as prize money from UPM for the year 2020.



https://twitter.com/UPMMadinah/status/1318958323585122307

- Got Best Researcher Award from UPM for the year 2019 from HRH, the Prince of Madinah.



- Got Best Researcher Award from UPM for the year 2018 with a prize of 33K SAR.
- My PhD thesis was nominated as the "BEST THESIS" from the School of Information Technology and Engineering (SITE) of University of Ottawa [https://ruor.uottawa.ca/bitstream/10393/30134/1/NR74248.PDF].

- My Master's thesis was nominated as the "BEST THESIS" from the School of Information Technology and Engineering (SITE) of University of Ottawa [https://ruor.uottawa.ca/bitstream/10393/27016/1/MR11388.PDF].
- National Research Council (NRC) of Canada Research Assistantship from Summer 2008 to Summer 2010, value: \$30,000/year
- Ontario Graduate Scholarship (OGS) for the session 2009-2010, value: \$15,000
- University of Ottawa Excellence Scholarship from Fall 2009 to Fall 2010, value: \$6,500
- NSERC PGS-D2 scholarship from Fall 2007 to Fall 2009, value: \$42,000
- University of Ottawa Excellence Scholarship from Fall 2007 to Fall 2009, value: \$26,000
- Ontario Graduate Scholarship (OGS) for the session 2008-2009, value: \$15,000 (Declined to continue NSERC)
- Ontario Graduate Scholarship (OGS) for the session 2007-2008, value: \$15,000 (Tenured for only 4 months and then declined to accept NSERC PGS-D2).
- Ontario Graduate Scholarship (OGS) for the session 2006-2007, value: \$15,000
- University of Ottawa Excellence Scholarship for the session 2006-2007, value: \$6,500
- Admission Scholarship for PhD study awarded by the Faculty of Graduate and Postdoctoral Studies (FGPS) of University of Ottawa from Fall 2005 to Fall 2009, value: \$26,000
- Admission Scholarship during master's study period awarded by the FGPS of University of Ottawa, value: \$6,500

## List of the most important publications

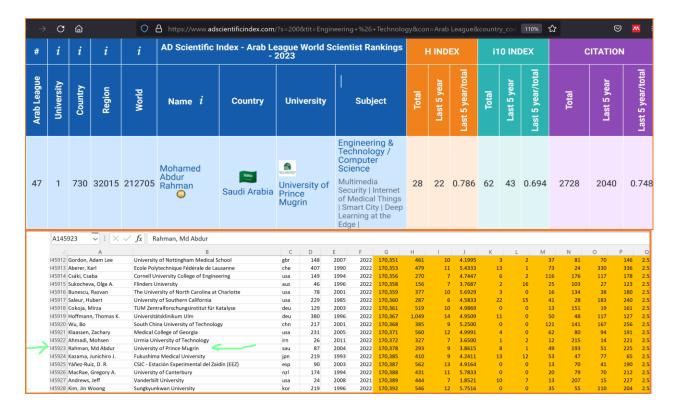
https://www.researchgate.net/profile/Rahman

https://publons.com/researcher/3276094/abdur-rahman/

https://scholar.google.com/citations?view\_op=list\_works&hl=en&user=yV-SaYcAAAAJ

#### **Honors**

- My publications at the ACM is the top most among all the UQU researchers. For details please visit <a href="http://dl.acm.org/inst\_page.cfm?id=60006848&CFID=558519548&CFTOKEN=51379090">http://dl.acm.org/inst\_page.cfm?id=60006848</a>
- I am among the top 2% researchers among the world for the year 2022 by both Stanford + Elsevier list (<a href="https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4">https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4</a>) and the adscientificindex list
  - $\label{lem:special} $$ $$ \frac{\text{(https://www.adscientificindex.com/?s=200\&tit=Engineering+\%26+Technology\&con=Arab\ \%20League\&country\_code=sa)}. $$$



• I am among the top 2% researchers among the world for the year 2020. <a href="https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3">https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3</a>

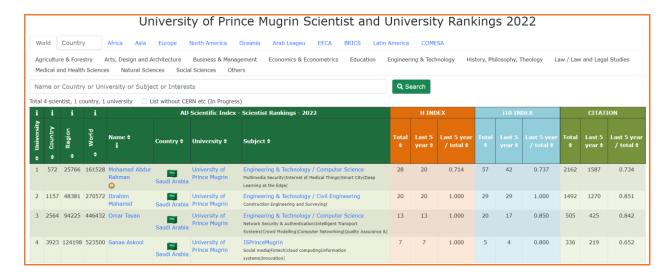
50438	Willatzen, Morten	Chinese Academy of Sciences	chn	258	1991	2021	185,947	432	10	6.8468	15	3	68	99	155	168	2.5963
50439	Franzetti, Andrea	Università degli Studi di Milago	ita	94	2003	2021	185,948	816	14	5.5858	0	0	19	129	31	263	2.5963
50440	Rahman, Md Abdur	University of Prince Mugrin <	sau	119	2004	2021	185,949	438	10	4.9397	8	2	52	204	55	237	2.5963
50441	Bartlett, Neil	Princeton University	usa	128	1957	2007	185,954	238	7	4.1540	7	39	44	65	123	233	2.5963
50442	Kim, Hyunseok	Sogang University	kor	31	1996	2020	185,958	241	8	5.3333	5	25	13	45	27	233	2.5963
50443	Dolatshahi-Pirouz, Alirez	Danmarks Tekniske Universitet	dnk	70	2008	2021	185,959	864	17	4.9732	1	0	15	75	29	374	2.5963
50444	Goltsman, G.	Moscow Pedagogical State Univ	rus	462	1972	2021	185,960	916	13	4.8472	7	0	31	145	237	343	2.5962

• I have been cited by Thompson Reuters ISI Web of Science among the **top 40 researchers** having the **first authorship** with the most cited among top tiers journals within the whole **Kingdom of Saudi Arabia** in the year **2020** as shown below.

	متميزين المنتمين للجامعات السعودية	قائمة الباحثين الم	
	نمت بلكاس دخل لمملكة وتم تشرط في افضل 200 من الدورايت لعلمية (2016-2019) في للورايت لعلمية لمتوزة (%90 <ajifp)ولمفهرسة th="" شبكة="" في="" لعلوم-<=""><th></th><th>للجثين لذيو</th></ajifp)ولمفهرسة>		للجثين لذيو
عدد لجوث لم		سم اطمعة	سم للجث
9	King Saud Univ, Coll Comp & Informat Sci, Dept Software Engn	جامعة لملك سعود	Hossain, M. Shami
6	King Abdullah Univ Sci & Technol, Mat Sci & Engn,	طمعة لملك عبدالله للعلوم ولتكنووجا	Xia, Chua
5	Imam Abdulrahman Bin Faisal Univ, Coll Sci, Dept Phys	طمعة الاطم عبد لرحمن بن فيصل	Almessiere, M.
5	King Abdullah Univ Sci & Technol, KAUST, SPERC, Div Phys Sci & Engn	طمعة لملك عبدالله للعلوم ولتكنؤوجيا	Bootharaju, Megalamane
5	King Fahd Univ Petr & Minerals, Ctr Excellence Sci Res Collaborat MIT, KFUPM	جامعة لملك فهد للبرول ولممحدن	Qureshi, Bilal Ahme
5	King Fahd Univ Petr & Minerals, Dept Mech Engn	جمعة لملك عبد الله للعلوم ولتكنووجيا	Qasem, Naef A.
4	Alfaisal Univ, Dept Chem, Al Zahrawi St,Al Takhassusi Rd	طمعة لفيصل	Eissa, Shim
4	King Abdulaziz Univ, Dept Chem	جامعة لملك عبد لعزز	Kamal, Tahsee
4	King Abdulaziz Univ, Dept Phys, Fac Sci	جامعة لملك عبد ل <b>عن</b> ز	Al-Hadeethi, Y
4	King Abdullah Univ Sci & Technol, Biol & Environm Sci & Engn	جمعة لملك عبد الله للعلوم ولتكنووجا	Kim, Doo
4	King Abdullah Univ Sci & Technol, Phys Sci & Engn Div,	طمعة لملك عبدالله للعلوم ولتكنؤوجا	Ma, Xiaohi
4	King Abdullah Univ Sci & Technol, Phys Sci & Engn Div, Mat Sci & Engn	طمعة لملك عبدالله للعلوم ولتكنؤوجيا	Liang, Hanfe
4	King Abdulllah Univ Sci & Technol, Water Desalinat & Reuse Ctr	جمعة لملك عبد الله للعلوم ولتكنووجا	Fortunato, Lu
4	King Fahd Univ Petr & Minerals, Dept Mech Engn	جامعة لملك فهد للترول ولمملان	Ahmed, M.
4	King Fahd Univ Petr & Minerals, TIC CCS	جمعة لملك فهد للبرول ولمعدن	Nemitallah, Medhat
3	King Abdullah Univ Sci & Technol KAUST, Adv Membranes & Porous Mat Ctr	طمعة لملك عبدالله للعلوم ولتكنووجا	Akhtar, Faheem Hass
3	Imam Abdulrahman Bin Faisal Univ, Coll Clin Pharm	جامعة الامام عبد لرحمن بن فيصل	Ahmad, Rizwa
3	King Abdullah Univ Sci & Technol, KAUST, Catalysis Ctr	طمعة لملك عبدالله للعلوم ولتكنووجيا	Huang, Kuo-W
3	King Fahd Univ Petr & Minerals, KFUPM, Res Inst, CoRERE	جمعة لملك فهد للبرول ولمعدن	Al-Sulaiman, Fahad
3	King Abdullah Univ Sci & Technol KAUST, Adv Membranes & Porous Mat Ctr	جامعة لملك عبد الله للعلوم ولتكنولوجا	Shevate, Rah
3	King Abdullah Univ Sci & Technol KAUST, KAUST Catalysis Ctr KCC	جامعة لملك عبد الله للعلوم ولتكنولوجا	Falivene, Lau
3	King Abdullah Univ Sci & Technol, Adv Membranes & Porous Mat Ct	طمعة لملك عبدالله للعلوم ولتكنؤوجا	Huang, Tiefs
3	King Abdullah Univ Sci & Technol, Clean Combust Res Ctr	جامعة لملك عبد الله للعلوم ولتكنولوجا	An, Yanzh
3	King Abdullah Univ Sci & Technol, COHMAS Lab, Div Phys Sci & Engn,	طمعة لملك عبدالله للعلوم ولتكنؤوجا	Tai, Yanlo
3	King Abdullah Univ Sci & Technol, Comp Elect & Math Sci & Engn Div	جامعة لملك عبد الله للعلوم ولتكنولوجا	Ben Issaid, Chaou
3	King Abdullah Univ Sci & Technol, Comp Elect & Math Sci & Engn Div	طمعة لملك عبد الله للعلوم ولتكنولوجا	Saeed, Na
3	King Abdullah Univ Sci & Technol, Comp Elect & Math Sci & Engn Div	جامعة لملك عبد الله للعلوم ولتكنولوجا	Ben Rached, Nadh
3	King Abdullah Univ Sci & Technol, KAUST Catalysis Ctr	جامعة لملك عبدالله للعلوم ولتكنولوجا	Takanabe, Kazuhi
3	King Abdullah Univ Sci & Technol, Mat Sci & Engn	طمعة لملك عبدالله للعلوم ولتكنووجا	Wang, Zhenw
3	King Abdullah Univ Sci & Technol, Phys Sci & Engn Div,	جامعة لملك عبد الله للعلوم ولتكنولوجا	Ladelta, Vi
3	King Abdullah Univ Sci & Technol, Phys Sci & Engn Div, Mat Sci & Engn	جمعة لملك عبد الله للعلوم ولتكنولوجا	Ming, Fangwa
3	King Abdullah Univ Sci & Technol, Phys Sci & Engn Div, Mat Sci & Engn	طمعة لملك عبدالله للعلوم ولتكنووجا	Zhang, F
3	King Fahd Univ Petr & Minerals, Dept Chem	جامعة لملك فهد ل <mark>لبرول ولمعلان</mark>	Ali, Shaikh
3	King Fahd Univ Petr & Minerals, Dept Chem	طمعة لملك فهد للبراض ولمملان	Ganiyu, Saheed
3	King Fahd Univ Petr & Minerals, Dept Mech Engn	جامعة لملك فهد للت <u>ر</u> ول و <mark>لمعدن</mark>	Lawal, Dahiru
3	King Fahd Univ Petr & Minerals, Dept Mech Engn	جامعة لملك فهد للبرول ولمعدن	Yilbas, Bekir Sar
3	King Fahd Univ Petr & Minerals, Mech Engn Dept	جمعة لملك فهد للقرول ولمعدن	Ben-Mansour, Rache
3	King Fahd Univ Petr & Minerals, Mech Engn Dept	جامعة لملك فهد للبرول ولمعدن	Khalifa, Atia
3	King Fahd Univ Petr & Minerals, Mech Engn Dept, KFUPM	جامعة لملك فهد للبرول ولمعدن	Jamil, Muhammad Ahma
3	Prince Mugrin Bin Abdulaziz Univ, Dept Comp Sci,	طِمعة الأمِر مقرن بن عبد لعنز	Rahman, Md. Abd

• For the year 2021, I have been ranked 1<sup>st</sup> by adscientificindex among the **top researchers** within the **UPM**, 572 among the **KSA**, 25766 among the **middle east and** 161528 among the **world** researchers as shown below.

https://www.adscientificindex.com/?university=University+of+Prince+Mugrin



# Patent Already Granted

**Mohamed Abdur Rahman**, Elham Mahjoob Hassanain, Salaheldin Hassanain, *A Method and System for Dyslexia Screening and Management*, **USPTO 15/237591**.

https://patents.google.com/patent/US9672618B1/en







# **Patents Pending**

- P1. A web-based non-invasive way of detecting, tracking, recognizing and 3d visualizing live kinematic hand therapy data of hemiplegic patient
- P2. System and method for detecting and visualizing live kinetic and kinematic data for the musculoskeletal system
- P3. A non-invasive HealthGIS multimedia serious game therapy environment for providing ranges for motion of full-body joints to hemiplegic patient through forward and inverse kinematics.
- P4. Spatio-temporal algorithm to detect boundary regulation for pilgrims during hajj.

- P5. A framework to maintain pilgrim social network between pilgrims and their family member and friends
- P6. HajjNUmrah: a cloud-based context-aware hajj and Umrah management system based on crowd sourced data
- P7. Vehicle-connect a smart spatio-temporal cloud-based vehicle management system for a very large and dynamic crowd
- P8. A gesture controlled mobile based camera-less smart home management solution for providing assisted living services to physically challenged individuals with low mobility
- P9. Spatio-temporal augmented reality-based system to perform rituals of hajj and Umrah in proper and easy way
- P10. Tracking friends and vehicles spatio-temporal status using augmented reality in a very large crowd
- P11. An electromyography (EMG) signal and augmented reality based occupational hand therapy framework for people with hemiplegia
- P12. HajjGeoCaching a real-life massive spatio-temporal online game for pilgrims
- P13. Immersive telepresence as occupational therapy for hemiplegic patients through VR technology
- P14. Mapping virtual 3d human model with the joint-motions of a disabled: a web-based 3d human model with natural user interface-based interaction capability for designing physical therapy
- P15. Gestpass: a multimodal gesture-based login system for providing assisted living services to physically challenged individuals
- P16. A serious game generator for disability persons based on patient disability level and/or therapist recommendation using non-invasive motion sensors
- P17. Therapist-Assistant: Virtual Reality based Live Augmented Skeletal Therapy Management System
- P18. BCI (Brain Computer Interface) based VR (Virtual Reality) Therapy System for Paralyzed patients to recover muscle functions
- P19. A Multi-Sensory Multimedia-based Cyber-Physical Environment for Fully Immersive Navigation of Real and Virtual Worlds
- P20. Autobook: A Social Network for the Vehicles
- P21. Should you go for Hajj this year A Smart Recommendation System

- P22. Smart On-Road Sign Boards' Network in the Context of Smart City
- P23. Context Aware Dynamic Road Congestion Notification and Dynamic Route Suggestions in a Very Large Crowd in the context of a Smart City
- P24. HoloDesk: Augmented Holographic Real-time Hajj & Umrah Entities' Management System
- P25. Physical Therapy with Mixed Reality
- P26. Holographic visualization of Hajj Scenario
- P27. Crowd based Spatio-temporally aware Visitor Information Guide for Sightseeing
- P28. Spatio-temporal Context-Aware Door, Floor and Route Recommender for Performing Tawaaf & Sai and Stoning Ritual at Jamarat for Males, Females and individual with disability

### **ACTIVE NATIONAL & INTERNATIONAL COLLABORATION:**

	Name of Partner/Collaborator	Nature of Collaboration / Partnership	Major Outcomes
1.	University of Oxford, UK	Joint Project Proposal	Accepted Proposal worth 7.5M SAR
2.	King's College London, UK	Joint Project Proposal	Accepted Proposal worth 7.5M SAR
3.	King Saud University	Joint Project Proposal	Accepted Proposal worth 0.5M SAR
4.	University of Greenwich, London	Joint Project	Accepted Proposal 50K GBP
5.	Birmingham City University, Birmingham B5 5JU, U.K.	Joint Publication	Published Paper
6.	University of Luxembourg, L-1855 Luxembourg City, Luxembourg	Joint Publication	Published Paper
7.	King's College London, London WC2B 4BG, U.K.	Joint Publication	Published Paper
8.	University of Idaho, Moscow, ID 83944-1023, USA	Joint Publication	Published Paper
9.	University of Glasgow, Glasgow G12 8QQ, UK	Joint Publication	Published Paper

10.	Université Cergy-Pontoise, ENSEA, CNRS, UMR8051, 95000 Paris, France	Joint Publication	Published Paper
11.	University of Electronic, Science, and Technology of China, Chengdu 610000, China	Joint Publication	Published Paper
12.	René Dubos Hospital, 95300 Pontoise, France	Joint Publication	Published Paper
13.	University of Greenwich, London SE1 09LS, UK	Joint Publication	Published Paper
14.	Department of Computer Science and Information Engineering, Asia University, Taiwan	Joint Publication	Published Paper
15.	Umm Al-Qura University, Makkah, KSA	Joint Publication	Published Paper
16.	King Abdulaziz University, Jeddah, KSA	Joint Publication	Published Paper
17.	Washington State University, USA	Joint Publication	Published Paper
18.	College of Medicine, Alfaisal University, Riyadh, KSA	Joint Publication	Published Paper
19.	Department of Medicine, Houston Methodist Hospital and Weill Cornell Medical College, Houston, TX, USA	Joint Publication	Published Paper
20.	School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, USA	Joint Publication	Published Paper
21.	Lineberger Comprehensive Cancer Center, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA	Joint Publication	Published Paper
22.	Division of Hematology/Medical Oncology, University of Texas Southwestern Medical Center, Dallas, TX, USA	Joint Publication	Published Paper
23.	Division of Blood and Marrow Transplant, Duke University, NC, USA	Joint Publication	Published Paper
24.	Division of Hematology, Department of Medicine, Mayo Clinic, Rochester, MN, USA	Joint Publication	Published Paper
25.	PAS, part of Hexagon	Joint Publication	Published Paper

#### **JOURNALS:**

### 2023 (3)

- J58. Rafeeq Ahmed, Syed Umar Amin, Ahmad Taher Azar, Basit Qureshi, M. A. Rahman, M. Shamim Hossain, Mohamed Tounsi, "Intelligent Internet-of-Things Healthcare: Advancing with Explainable Artificial Intelligence", *MDPI Sensors*, vol. xx, no. xx, pp. xx-xx, 2023 [SUBMITTED] [IF: 3.847 Q1]
- J57. M. S. Hossain, M. Saiful Islam, M. A. Rahman, "Edge Learning for Cyber Resilience of 6G IT/OT Converged Digital Twin Mobile Networks", *IEEE Journal on Selected Areas in Communications*, vol. xx, no. xx, pp. xx-xx, 2023 [SUBMITTED] [IF: 13.081 Q1]
- **J56. M. A. Rahman**, "Design of 6G and Intelligent Edge-IoT Assisted Smart Community Network", *IEEE Network*, vol. xx, no. xx, pp. xx-xx, **2023** [SUBMITTED] [IF: **10.693 Q1**]
- J55. M. A. Rahman, M. Shamim Hossain, Ahmad J. Showail, Nabil A. Alrajeh, and A. M. Ghoneim, "AI-Enabled IIoT for Live Smart City Event Monitoring", *IEEE Internet of Things Journal*, vol. 10, no. 4, pp. 2872-2880, FEBRUARY 15, 2023 <a href="https://doi.org/10.1109/JIOT.2021.3109435">https://doi.org/10.1109/JIOT.2021.3109435</a> [IF: 10.238 Q1]

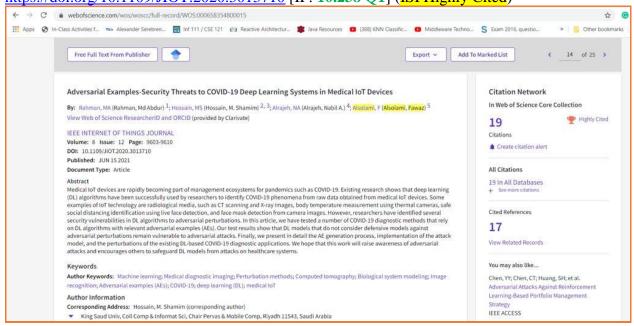
# 2022 (3)

- J54. M. A. Rahman, M. Shamim Hossain, "Design of a Secure Internet of Artificially Intelligent Things in the 6G Era", *EEE Internet of Things Magazine*, vol. 5, no. 2, pp. 49-54, 2022. https://doi.org/10.1109/IOTM.001.2100120
- J53. M. Shamim Hossain, C. Xu, J. Bilbao, M. A. Rahman, A. El Saddik, M. Bin Zayed, "Edge-AI for Connected Living", ACM Transactions on Internet Technology, Vol. 22, No. 3, August 2022, Article No.: 55e, pp 1–3, <a href="https://doi.org/10.1145/3514196">https://doi.org/10.1145/3514196</a>
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- C65. **Md. Abdur Rahman**, George Loukas, Syed Maruf Abdullah, Areej Abdu, Syed Sadiqur Rahman, Elham Hassanain, Yasmine Arafa, "Blockchain and IoT-based Secure Multimedia System for a Massive Crowd: Sharing Economy Perspective", *ACM ICMR*, Ottawa, ON, Canada, June 10-13 **2019**.
- C64. **Md. Abdur Rahman**, "A Secure k-anonymous Hajj Social Network that Supports a Massive Cloud-Based Big Data Architecture", *International Engineering Conference and Exhibition*, Riyadh, Kingdom of Saudi Arabia, 4-7 December **2017**.
- C63. **Md. Abdur Rahman**, "Next Generation Hajj and Umrah: A smart City Perspective", International Engineering Conference and Exhibition, Riyadh, Kingdom of Saudi Arabia, 4-7 December 2017.
- C62. **Md. Abdur Rahman**, "VCareGiver: A Cloud-based Virtual Caregiver for Elderly People through A Gesture-controlled Cyber Physical IoT Systems", International Engineering Conference and Exhibition, Riyadh, Kingdom of Saudi Arabia, 4-7 December 2017.
- C61. **Md. Abdur Rahman**, "Extending OpenStreetMap Database: Towards Developing an Accurate and Detailed Live Digital Road Network for the Holy City of Makkah and Madinah", International Engineering Conference and Exhibition, Riyadh, Kingdom of Saudi Arabia, 4-7 December 2017.
- C60. **Md. Abdur Rahman**, "Towards A Secure Fog Computing Framework for Hajj: Vision 2030 Perspective", International Engineering Conference and Exhibition, Riyadh, Kingdom of Saudi Arabia, 4-7 December **2017**.

- C59. Ahmad Qamar, Mohd Omar and **Md. Abdur Rahman**, "DESIGN AND EVALUATION OF A CLOUD ASSISTED LOW-COST SERIOUS GAMES BASED FRAMEWORK FOR PHYSIOTHERAPY", 2nd International Saudi Health Informatics Conference (ISHIC <u>2017</u>), Riyadh, KSA, <u>2017</u>.
- C58. Majed Alowaidi, **Md. Abdur Rahman**, Elham Hassanain, Abdulmotaleb El Saddik, "A **Semantic Notification Approach for IoT-Based Sensory Data**", 2nd ACM/IEEE International Conference on Internet of Things Design and Implementation ACM/IEEE IoTDI **2017** (April 18-20), Pittsburgh, PA, USA, **2017**.
- C57. **Md. Abdur Rahman**, Abdulhameed Alelaiwi, "A Synchronized Multimedia in-Home Therapy Framework in Big Data Environment", MUST-EH 2016 IEEE International Conference on Multimedia and Expo (ICME 2016), July 11 to July 15, Seattle, USA, **2016**.
- C56. **Md. Abdur Rahman**, "Next Generation Hajj: A smart City Perspective", MMCloudCity 2016 IEEE International Conference on Multimedia and Expo (ICME 2016), July 11 to July 15, Seattle, USA, **2016**.
- C55. **Md. Abdur Rahman**, Rafaf Tahsin, "Multi-Sensory Therapy Engine for Whole Body Joint Analysis As a Service: Therapeutic Measurement Perspective", 2016 IEEE International Symposium on Medical Measurements and Applications (MeMeA), May 15-18, Benevento, Italy, **2016**.
- C54. **Md. Abdur Rahman**, Elham Hassanain, Salah Hassanain, "A Multimedia Big Data Retrieval Framework to Detect Dyslexia among Children", ACM ICMR 2016, New York, USA, June 6 9, 2016.
- C53. **Md. Abdur Rahman**, M. Shamim Hossain, "A Gesture-based Smart Home-oriented Health Monitoring Service Framework for People with Physical Impairments", 14th International Conference on Smart homes, Assistive Technologies, Robotics and Health telematics (ICOST), Springer, 25-27 May, **2016**, Huazhong, China.
- C52. **Md. Abdur Rahman**, "Gesture-based Cyber-Physical Therapy System for Elderly Monitoring in a Big Data Environment", ACM/Springer HCI, Toronto, Canada, 17 22 July **2016**.
- C51. **Md. Abdur Rahman**, Akhlaq Ahmad, "HajjCPS A Cyber Physical Environment for Providing Location-Aware Services to a Very Large Crowd", ACM/IEEE 7th International Conference on Cyber-Physical Systems (ICCPS), Vienna, Austria, 11-14 April **2016**.
- C50. **Md. Abdur Rahman**, "Gesture-based Cyber-Physical In-Home Therapy System in a Big Data Environment", ACM/IEEE 7th International Conference on Cyber-Physical Systems (ICCPS), Vienna, Austria, 11-14 April **2016**.
- C49. Akhlaq Ahmad, Mohamed Ridza Wahiddin, **Md. Abdur Rahman**, Imad Afyoni, Bilal Sadiq, Faizan ur Rahman, and Sohaib Ghani, "Scale Free Network Analysis of a Large Crowd

- through their Spatio-Temporal Activities", 4<sup>th</sup> International Conference on Advanced Computer Science Applications and Technologies ACSAT2015, 8-10 December, 2015, Kuala Lumpur, Malaysia.
- C48. Akhlaq Ahmad, Imad Afyouni, Abdullah Murad, **Md. Abdur Rahman**, Faizan Ur Rehman, Bilal Sadiq, Mohamed Ridza Wahiddin, "ST-Diary: A Multimedia Authoring Environment for Crowdsourced Spatio-Temporal Events", 8th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN 2015), 23rd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2015), November 3-6, 2015 Seattle, Washington, USA
- C47. Faizan Ur Rehman, Ahmed Lbath, Bilal Sadiq, Akhlaq Ahmad, Abdullah Murad, Imad Afyouni, **Md. Abdur Rahman**, Saleh Basalamah, "A Constraint-Aware Optimized Path Recommender in a Crowdsourced Environment", 12th ACS/IEEE International Conference on Computer Systems and Applications AICCSA 2015, November 17-20, 2015, Marrakech, Morocco.
- C46. Faizan Ur Rehman, Ahmed Lbath, Imad Afyouni, Abdullah Murad, **Md. Abdur Rahman**, Bilal Sadiq, Akhlaq Ahmad, Saleh Basalamah, "Semantic Multimedia-Enhanced Spatio-temporal Queries in a Crowdsourced Environment", 23rd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2015), November 3-6, 2015 Seattle, Washington, USA
- C45. Bilal Sadiq, Faizan Ur Rehman, Akhlaq Ahmad, Abdullah Murad, Ahmad Lbath, **Md. Abdur Rahman**, and Sohaib Ghani, "A Spatio-temporal Multimedia Big Data Framework for a Large Crowd", Big Data for sustainable development, Workshop in IEEE Big Data 2015, IEEE International Conference on Big Data, October 29-November 1, 2015, Santa Clara, CA, USA (*Best Presentation Award*).
- C44. Faizan Ur Rehman, Ahmed Lbath, Abdullah Murad, **Md. Abdur Rahman**, and Saleh Basalamah "A Semantic Geo-Tagged Multimedia-Based Routing in a Crowdsourced Big Data Environment", ACM International Conference on Multimedia (ACM Multimedia 2015), 26 30 October 2015, Brisbane, Australia
- C43. Akhlaq Ahmad, **Md. Abdur Rahman**, Ridza Wahiddin, Abdullah Murad, Md. Abdur Rahman, and Saleh Basalamah "i-Diary: A Crowdsource-based Spatio-Temporal Multimedia Enhanced Points of Interest Authoring Tool", ACM International Conference on Multimedia (ACM Multimedia 2015), 26 30 October 2015, Brisbane, Australia
- C42. Ahmad Qamar, Abdullah Murad, **Md. Abdur Rahman**, Faizan Ur Rehman, Akhlaq Ahmad, Bilal Sadiq, Saleh Basalamah, "A Multi-sensory Gesture-Based Login Environment", ACM International Conference on Multimedia (ACM Multimedia 2015), 26 30 October 2015, Brisbane, Australia
- C41. Bilal Ahmed, Faizan Ur Rehman, Ahmed Lbath, Abdullah Murad, **Md. Abdur Rahman**, and Saleh Basalamah "Crowdsourced Multimedia Enhanced Spatio-temporal Constraint Based

- on-Demand Social Network for Group Mobility", ACM International Conference on Multimedia (ACM Multimedia 2015), 26 30 October 2015, Brisbane, Australia
- C40. Ahmad Muaz Qamar, Ahmed Riaz Khan, Syed Osama Husain, **Md. Abdur Rahman**, and Saleh Basalamah "A Multi-Sensory Gesture-Based Occupational Therapy Environment for Controlling Home Appliances", ACM International Conference on Multimedia Retrieval (ICMR 2015), June 23-26, Shanghai, China
- C39. Akhlaq Ahmad, **Md. Abdur Rahman**, Mohamed Ridza Wahddin, Saleh Basalamah, Bilal Sadiq and Shady Mohammed, "Visualization of a Scale Free Network in a Smartphone-based Multimedia Big Data Environment", IEEE International Conference on Multimedia Big Data (BigMM 2015), Beijing, China, April 20-22, 2015.
- C38. Ahmad Muaz Qamar, **Md. Abdur Rahman**, Syed Osama Hussain, Bilal Sadiq, Ahmed Riaz Khan and Saleh Basalamah, "A Multimedia Big Data E-Therapy Framework", IEEE International Conference on Multimedia Big Data (BigMM 2015), Beijing, China, April 20-22, 2015.
- C37. Akhlaq Ahmad, Imad Afyouni, Abdullah Murad, **Md. Abdur Rahman** and Mohamed Ridza Wahiddin, "Quality and Context-Aware Data Collection Architecture from Crowd-Sourced Data", IMTIC '15, February 11-13, 2015.
- C36. Faizan Ur Rehman, Ahmed Lbath, **Md. Abdur Rahman**, Saleh Basalamah, Imad Afyouni, Akhlaq Ahmad and Syed Osama Hussain, "Toward Dynamic Path Recommender System Based on Social Network Data", 7<sup>th</sup> ACM SIGSPATIAL International Workshop on Computational Transportation Science, Dallas, Texas, November 4, 2014.
- C35. Imad Afyouni, Faizan Ur Rehman, Ahmad Qamar, Akhlaq Ahmad, **Md. Abdur Rahman** and Saleh Basalamah, "A GIS-based Serious Game Interface for Therapy Monitoring", 3<sup>rd</sup> International ACM SIGSPATIAL Workshop on HealthGIS (HealthGIS'14), Dallas, Texas, USA, November 4, 2014.
- C34. Akhlaq Ahmad, **Md. Abdur Rahman**, Faizan Ur Rehman, Ahmed Lbath, Imad Afyouni, Saleh Basalamah, Abdelmajid Khelil, Osama Hussain, Bilal Sadiq, Mohamed Ridza Wahiddin, "A GIS-based Serious Game Interface for Therapy Monitoring", 11<sup>th</sup> ACS/IEEE International Conference on Computer Systems and Applications (AICCSA' 2014), November 10-13, 2014, Doha, Qatar, 2014.
- C33. Akhlaq Ahmad, **Md. Abdur Rahman**, Faizan Ur Rehman, Imad Afyouni, Saleh Basalamah, Mohamed Ridza Wahiddin, "Towards a Mobile and Context-Aware Framework from Crowdsourced Data", IEEE International Conference on Information and Communication Technology For The Muslims World (ICT4M), Kuching, Sarawak, Malaysia, 17-19 November 2014 (*BEST PAPER AWARD*).
- C32. Ahmad Qamar, Imad Afyouni, **Md. Abdur Rahman**, Faizan Ur Rehman, Delwar Hossain, Saleh Basalamah and Ahmed Lbath, "A GIS-based Serious Game Interface for Therapy

- Monitoring", 22nd ACM International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2014), Dallas, Texas, USA, November 4-7, 2014 (**BEST DEMO AWARD**).
- C31. Ahmad Qamar, Imad Afyouni, Faizan Ur Rehman, Delwar Hossain, Asad Toonsi, **Md. Abdur Rahman** and Saleh Basalamah, "A Multimedia E-Health Framework Towards An Interactive And Non-Invasive Therapy Monitoring Environment", The 22nd ACM International Conference on Multimedia (ACM Multimedia), Orlando, Florida, USA, November 3-7, 2014.
- C30. **Md. Abdur Rahman**, "Multimedia Non-Invasive Hand Therapy Monitoring System", IEEE International Symposium on Medical Measurements and Applications (IEEE MeMeA 2014), Lisbon, Portugal, June 11 12, 2014.
- C29. **Md. Abdur Rahman**, Mohamed Ahmed, Ahmad Qamar, Delwar Hossain, Saleh Basalamah, "Modeling Therapy Rehabilitation Sessions using Non-Invasive Serious Games", IEEE International Symposium on Medical Measurements and Applications (IEEE MeMeA 2014), Lisbon, Portugal, June 11 12, 2014.
- C28. **Md. Abdur Rahman**, Delwar Hossain, Ahmad M Qamar, Faizan Ur Rehman, Asad H. Toonsi, Mohamed Ahmed, Abdulmotaleb El Saddik, Saleh Basalamah, " A Low-cost Serious Game Therapy Environment with Inverse Kinematic Feedback for Children Having Physical Disability", *ACM International Conference on Multimedia Retrieval (ACM ICMR 2014*), Glasgow, UK, April 1-4, 2014.
- C27. Ahmad M. Qamar, **Md. Abdur Rahman**, and Saleh Basalamah, "Adding inverse kinematics for providing live feedback in a serious game-based rehabilitation system", *IEEE ISMS*, Malaysia, 27 Jan 29 Jan 2014.
- C26. **Mohamed Abdur Rahman**, Asad Toonsi, and S. Basalamah, "A Framework toward Detecting and visualizing Kinematic Data for Children with Hemiplegia", IEEE 15<sup>th</sup> International Conference on e-Health Networking, Applications and Services (IEEE Healthcom 2013), Lisbon, Portugal, October 9 12, 2013.
- C25. **Mohamed Abdur Rahman** and M. Ahmed, "Emotion-Based Mashup for Social Media Contents", 19<sup>th</sup> International Conference on Distributed Multimedia Systems (DMS 2013), Brighton Seafront, United Kingdom, August 8 August 10, 2013.
- C24. M. Ahmed and **Mohamed Abdur Rahman,** "Towards a Semantic Multimedia Content Retrieval Framework", 19<sup>th</sup> International Conference on Distributed Multimedia Systems (DMS 2013), Brighton Seafront, United Kingdom, August 8 August 10, 2013.
- C23. **Mohamed Abdur Rahman**, M. Ahmed, and S. Basalamah, "Context-Aware Mobile Services for Hajj and Umrah", 13<sup>th</sup> workshop of Hajj and Umrah research, Makkah Al Mukarramah, 30 April 2013 2 May 2013.
- C22. **Md. Abdur Rahman**, Ahmad M. Qamar, Mohamed A. Ahmed, M. Ataur Rahman, and Saleh Basalamah, "Multimedia Interactive Therapy Environment for Children Having Physical

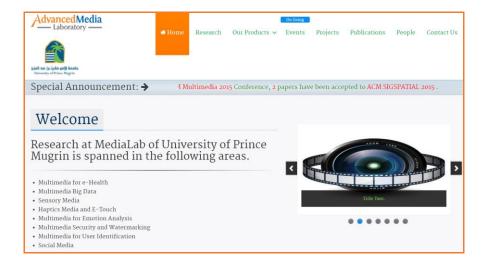
- Disabilities", ACM International Conference on Multimedia Retrieval (ACM ICMR 2013), Dallas, USA, April 16-19, 2013.
- C21. Kazi Masudul Alam, **Md. Abdur Rahman**, Abdulmotaleb El Saddik and Wail Gueaieb, "Adding Emotional Tag to Augment Context-Awareness in Social Network Services," in Proc. of the IEEE Instrumentation and Measurement Technology Conference (I2MTC'2011), Hangzhou, China, May 10-12, 2011.
- C20. **Md. Abdur Rahman**, Abdulmajeed Alkhaldi, Jongeun Cha and Abdulmotaleb El Saddik, "Adding Haptic Feeling to YouTube," ACM Multimedia, Firenze, Italy, October 25-29, 2010.
- C19. **Md. Abdur Rahman**, Sadek Hamdan, Abdulmotaleb El Saddik and Wail Gueaieb, "Context-Aware Social Networks Mashup: A Personalized Web Perspective," in Proc. of the IEEE Instrumentation and Measurement Technology Conference (I2MTC'2010), pp. 1228 1233, Austin, Tx, USA, May 3-6, 2010.
- C18. **Md. Abdur Rahman**, Wail Gueaieb, and Abdulmotaleb El Saddik, "Ubiquitous Social Network Stack for e-Health," in Proc. of the IEEE Medical Measurements and Analysis (MeMeA'2010), pp. 57-62, Ottawa, Canada, April 30-May 1, 2010.
- C17. Stephen Downes, Luc Belliveau, Saeed Samet, **Md. Abdur Rahman** and Rodrigue Savoie, "Managing Digital Rights Using JSON," in Proc. of the 6th IEEE International Workshop on Digital Rights Management, pp. 1 10, Las Vegas, Nevada, 13th January, 2010.
- C16. **Md. Abdur Rahman**, Mohammed F. Alhamid, Wail Gueaieb, and Abdulmotaleb El Saddik,"A Body Sensor Network Toward Ambient Intelligence: an e-Health Perspective," in Proc. of the IEEE Medical Measurements and Analysis (MeMeA'2009), pp. 22-25, Cetraro, Italy, May 29-30 2009.
- C15. **Md. Abdur Rahman**, Mohammed F. Alhamid, Wail Gueaieb, and Abdulmotaleb El Saddik, "A Framework to Bridge Social Network and Body Sensor Network: an e-Health Perspective," IEEE International Conference on Multimedia and Expo (ICME'2009), pp. 1724-1727, Cancun, Mexico, June 28-July 3 2009.
- C14. **Md. Abdur Rahman**, Abdulmotaleb El Saddik, and Wail Gueaieb, "SenseFace: A Sensor Network Overlay for Social Networks," in Proc. of the IEEE Instrumentation and Measurement Technology Conference (I2MTC 2009), pp. 1031 1036, Singapore, May 5-7 2009.
- C13. **Md. Abdur Rahman**, Abdulmotaleb El Saddik, and Wail Gueaieb, "Data visualization: From body sensor network to social networks," in Proc. of the IEEE International Workshop on Robotic and Sensors Environments, (ROSE'2009), pp. 157-162, Lecco, Italy, 2009.
- C12. **Md. Abdur Rahman**, Reza GhasemAghaei, Abdulmotaleb El Saddik and Wail Gueaieb, "M-IAR: Biologically Inspired Routing Protocol for Wireless Multimedia Sensor Networks," in Proc. of the IEEE International Instrumentation and Measurement Technology Conference (I2MTC'2008), pp. 1823-1827, Victoria, British Columbia, Canada, October 12--15 2008.

- C11. Reza GhasemAghaei, ASM Mahfujur Rahman, **Md. Abdur Rahman**, Wail Gueaieb and Abdulmotaleb El Saddik, "Ant Colony-Based Many-to-One Sensory Data Routing in Wireless Sensor Networks", in Proc. of the ACS/IEEE International Workshop on Wireless Internet Services (WISe'2008), pp. 1005-1010, Doha, Qatar, April 1-4 2008.
- C10. Reza Ghasemaghaei, **Md. Abdur Rahman**, Wail Gueaieb and Abdulmotaleb El Saddik, "Ant Colony-Based Reinforcement Learning Algorithm for Routing in Wireless Sensor Networks," in Proc. of the IEEE Instrumentation and Measurement Technology Conference (IMTC'2007), pp. 2173-2178, Warsaw, Poland, May 1-3 2007.
- C9. Md. Suruz Miah, Wail Gueaieb, **Md. Abdur Rahman** and Abdulmotaleb El Saddik, "Autonomous Dead-Reckoning Mobile Robot Navigation System With Intelligent Precision Calibration," in Proc. of the IEEE Instrumentation and Measurement Technology Conference (IMTC'2007), pp. 2179-2183, Warsaw, Poland, May 1--3 2007.
- C8. **Md. Abdur Rahman**, Md. Suruz Miah, Wail Gueaieb and Abdulmotaleb El Saddik, "A Framework for Sensory-based P2P Collaborative Environment," in Proc. of the IEEE Instrumentation and Measurement Technology Conference (IMTC'2007), pp. 2053-2057, Warsaw, Poland, May 1--3 2007.
- C7. **Md. Abdur Rahman**, Md. Suruz Miah, Wail Gueaieb and Abdulmotaleb El Saddik, "A P2P Sensor Framework for Collaborative Robots Manipulation," in Proc. of the Second International Conference on Systems (ICONS'2007), pp. 165-170, Martinique, French Caribbean, April 22-28 2007.
- C6. **Md. Abdur Rahman**, Souhail Abdala and Abdulmotaleb El Saddik, "A Framework for Two Phase Reconciliation in Mobile Databases", In proceedings of the NOTERE 2005, 29th August 1st September 2005, Gatineau, Canada
- C5. Abdulmotaleb El Saddik, **Md. Abdur Rahman**, and M. Anwar Hossain, "Authoring Multimedia Objects in Collaborative Ambient Intelligent Virtual Environment", In Proceedings of the fourth IEEE International Workshop on Haptic Virtual Environments and their Applications (HAVE 2005), Ottawa, Canada, 1-2 October 2005.
- C4. Mohammad Badiul Islam, Mollah Masum Billah Azadi, **Md. Abdur Rahman** and M. M. A. Hashem, "Bengali Handwritten Character Recognition Using Modified Syntactic Method", In Proceedings of the National Conference on Computer Processing of Bangla, pp. 264-275, 2005.
- C3. M. Anwar Hossain, **Md. Abdur Rahman**, Abdulmotaleb El Saddik and Pierre Lévy, "Architecture for 3D Navigation and Authoring of Distributed Learning Object Repositories", In Proceedings of the third IEEE International Workshop on Haptic Virtual Environments and their Applications (HAVE 2004), Ottawa, Canada, 2-3 October 2004.
- C2. M.S. Hossain, **M.A. Rahman** and A. El Saddik, "A Framework for Repurposing Multimedia Content", in Proc. IEEE-CCECE'04, Niagara Falls, Ontario, Canada, May 2-5, 2004.

C1. **Md. Abdur Rahman**, M. Anwar Hossain, Abdulmotaleb El Saddik, "LORNAV: A Demo of a Virtual Reality Tool for Navigation and Authoring of Learning Object Repositories", In proceedings of the 8th IEEE International Symposium on Distributed Simulation and Real Time Applications (DS-RT 2004), Budapest, Hungary, October 21-23, 2004.

# Helped UPM in Building Research Laboratory

- 1. After joining UPM, I have established two research laboratories.
  - a. Advanced Media Laboratory (http://advancedmedialab.com/)



b. Smart City Research Laboratory (<a href="http://mysmartciti.com/">http://mysmartciti.com/</a>)

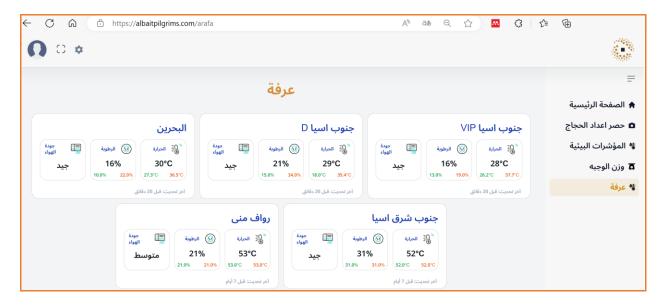






# **Industrial Projects**

1. Delivered Air Quality Monitoring System for Turkish, USA, and Canada pilgrims in Arafah tents for the year Hajj 2023.



2. Delivered custom Pilgrim Bus Monitoring system for Arafah for Turkish, USA, and Canada pilgrims in Arafah tents for the year Hajj 2023.



Figure: In Arafah Tent, Makkah, During Hajj 2023

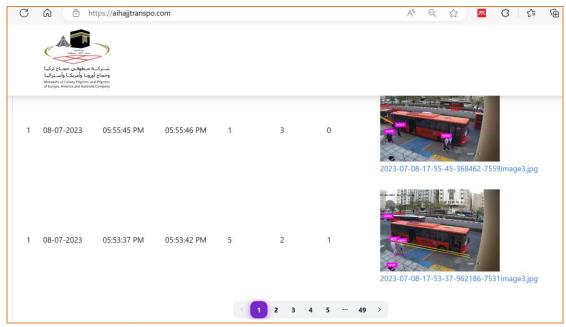


Figure: In Azizia Hotel, Makkah, During Hajj 2023

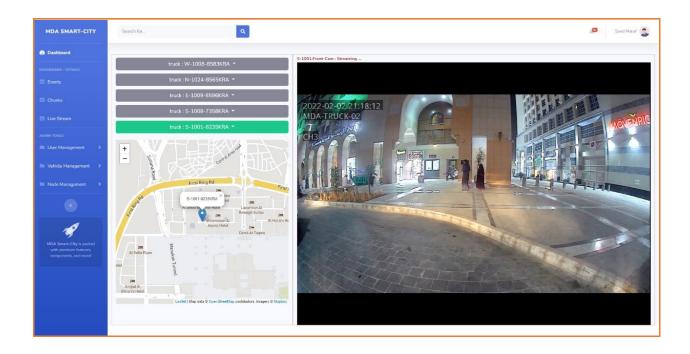
3. Delivered custom Pilgrim Count system in 220 tents in Mina for Asian Pilgrims' tents for the year Hajj 2023.



4. Delivered custom Food weight monitoring system in 220 tents in Mina for Asian Pilgrims' tents for the year Hajj 2023.



5. I have delivered the first product titled "MADINAH STREETVIEW – An AI assisted live surveillance system for the city of Madinah Al Munawwarah". This is jointly funded by Madinah Development Authority and Department of Amanah. The live demo is available on request (<a href="https://youtu.be/POJMXnWVUQU">https://youtu.be/POJMXnWVUQU</a>).

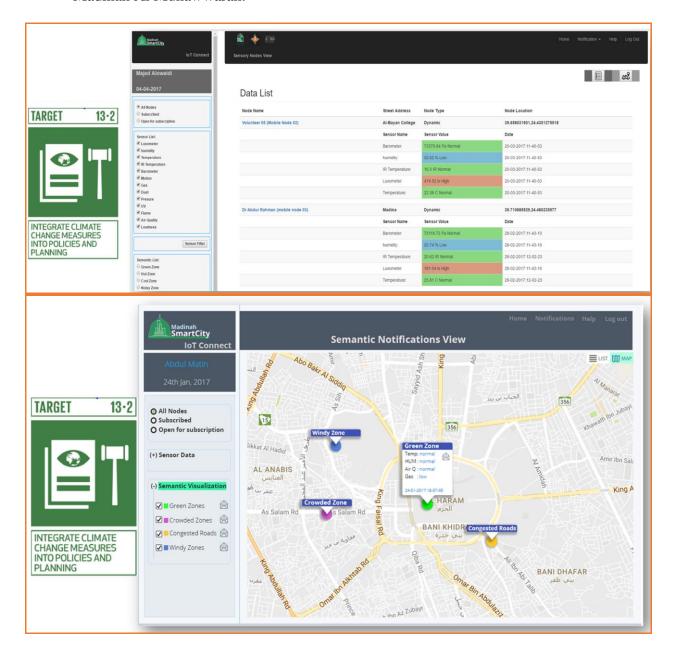


6. I have delivered the first AI-powered smart building management system to the University of Prince Mugrin's Building B in the male campus at Madinah Al Munawwarah. (<a href="https://youtu.be/aUCyNVW1qwQ">https://youtu.be/aUCyNVW1qwQ</a>)

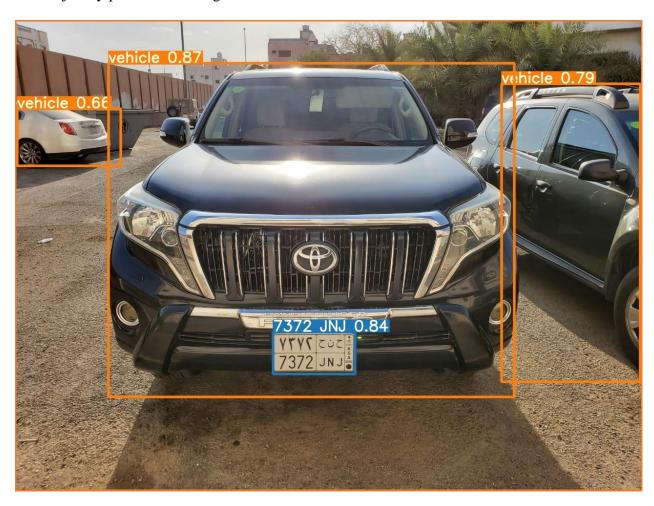




7. I have delivered the first UN SDG analytics based on custom IoT and AI-powered smart city management system to the Madinah Regional Development Authority (MRDA) at Madinah Al Munawwarah.



8. I delivered the first Automated License Plate Recognition system through Madinah Municipality (Amanah) Department's garbage truck equipped with IoT and AI nodes running Deep Learning algorithms. The project has been used to recognize and share live license plates from Madinah roads to Criminal Investigation Department. The project is jointly performed through UPM and MRDA.



### **UPM Business and Industrial Relations**

- Dr. Md Abdur Rahman has developed 60 AI based tools and demonstrated them to the business development unit of UPM. The demos are available at <a href="http://advancedmedialab.com/UPM-AI-COVID19/demo-AI.html">http://advancedmedialab.com/UPM-AI-COVID19/demo-AI.html</a>
- Dr. Md Abdur Rahman has developed the first SAUDI AI application that uses Deep learning for treating Diabetic Retinopathy patients. Dr. Abdur Rahman has **collaborated with Dr. Selwa Alhazza** to jointly develop this application. The

- application is under clinical trials, which has been deployed to UPM local cloud <a href="https://dr.medicalmlweb.com/">https://dr.medicalmlweb.com/</a>
- Dr. Md Abdur Rahman has developed 5 AI-based COVID-19 diagnosis tools that are under clinical trials in several saudi hospitals. The URL to access those AI tools can be reached at <a href="https://www.medml.net/">https://www.medml.net/</a>

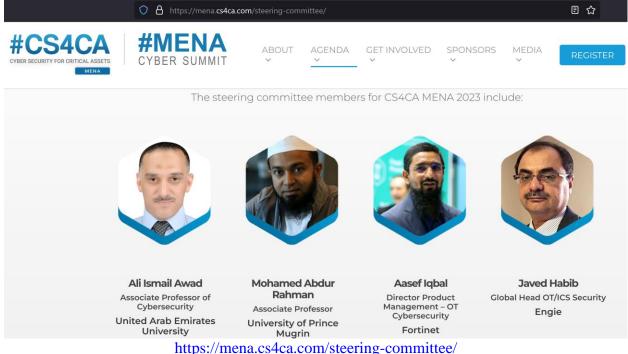
## Invited Talks, Keynote and Presentation

1. I have been invited to be a speaker at the prestigious CS4CA MENA Cyber Security SUMMIT to be held in Riyadh on 28-29 November 2023.



https://mena.cs4ca.com/speakers-cs4ca-mena/

2. I joined as a steering committee of CS4CA MENA region Summit.



3. I have been nominated to be a delegate to attend the emerging tech summit at Riyadh on the 8-9 November 2023.



4. I have been nominated by WHO, ITU, and KACST to present as a speaker about my research on Medical Large Multimodal Model Security, Privacy, and Compliance.



https://www.itu.int/en/ITU-

T/focusgroups/ai4h/Documents/gi/Agenda GI AI4H 0930 Day2 01Nov2023.pdf | https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/default.aspx | https://www.itu.int/en/ITU-T/focusgroups/ai4h/Pages/deliverables.aspx



5. I have been nominated as the panel moderator and speaker in the Cyber Security for Critical Assets World Summit held on the 11<sup>th</sup> of July 2023.



## https://vimeo.com/844295531/a0a42918d3



https://www.linkedin.com/posts/cs4ca\_mea-cs4ca-it-activity-7082342542456807424-EgI\_?utm\_source=share&utm\_medium=member\_desktop

6. I had the honor to give a keynote speech at Al Rayan Medical Colleges at Madinah Al Munawwarah during their annual symposium on May 22, 2023.



https://twitter.com/alrayancolleges/status/1660288157693145091?s=46 https://twitter.com/alrayancolleges/status/1660626447050977281?s=20 https://twitter.com/alrayancolleges/status/1660626447050977281

7. I had the privilege to present my capstone student projects to the Vice President of Purdue University, USA during his visit for signing MOU with our C3S College on May 21, 2023. With his delegation was the CISO of Red Sea Project, KSA.

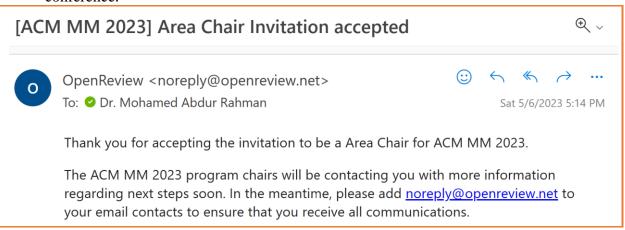


8. I have the honor to give a keynote speech at Arab Open University Madinah branch on May 17, 2023.





9. I have been nominated to be the area chair of the prestigious ACM Multimedia 2023 conference.

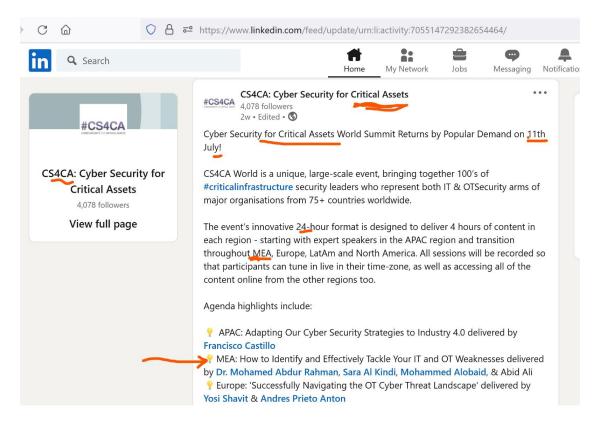


10. I have been invited for this great topic panel discussion.



https://www.linkedin.com/posts/privsec-events\_privsecglobal-privacy-security-activity-7064975740194189312-vixk?utm\_source=share&utm\_medium=member\_android

11. I have been selected to represent the Middle East and Africa region at the prestigious conference CS4CA 2023.



12. I have been nominated to be a speaker and panelist in the prestigious Governance, Risk, and Compliance (GRC) world forum to be held in May 2023.



https://www.grcworldforums.com/privsec/privsec-global/speakers

13. I presented our MADINASOC cyber range in front of the Director of Cyber Security Director and CISO of NEOM Dr. Hussein AlDawood.



14. I had the honor to receive the Director of Cyber Security Director and CISO of NEOM Dr. Hussein AlDawood for my capstone student project presentation event.



https://twitter.com/UPMMadinah/status/1623296849732857856

15. I participated with 2 of my students at the LEAP2023 in their AliBaba Cloud Computing Hackathon. The hackathon was participated by 45000 participants from 35 countries. We are among the top 100 finalists.



16. I had the honor to be a panelist during the SDAIA and Ministry of Education visit at University of Prince Mugrin.

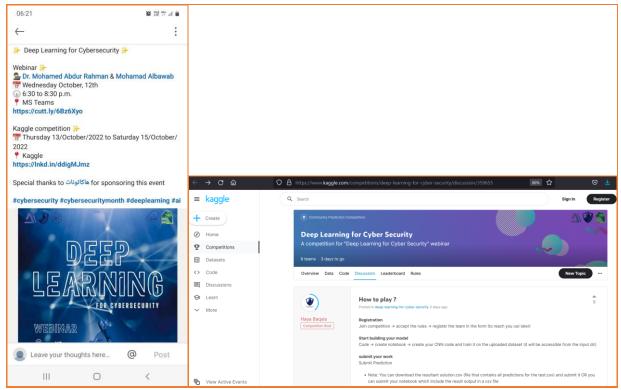
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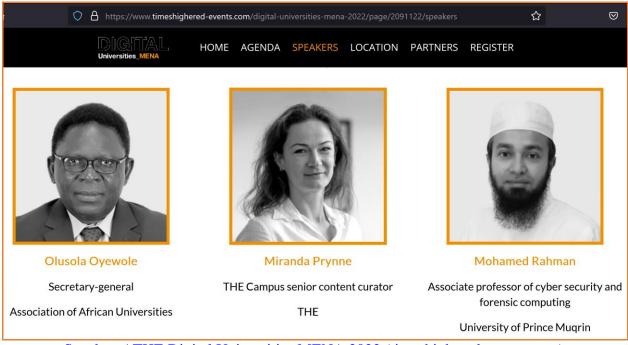
17. I participated in the BLACKHAT 2022 event in Riyadh with our UPM students.



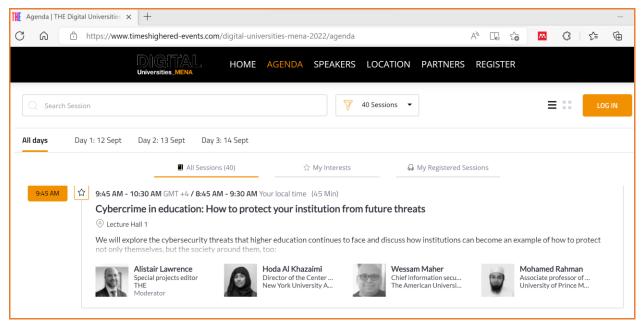
18. I have given a 2-hour webinar followed by a Kaggle competition (<a href="https://www.kaggle.com/competitions/deep-learning-for-cyber-security/leaderboard">https://www.kaggle.com/competitions/deep-learning-for-cyber-security/leaderboard</a>) on the following topic "Cyber Security for Deep Learning and Deep Learning for Cyber Security". The event is organized by the Cyber Security Club and AI club of UPM and hackthonat.



19. I have been chosen to be a panelist and a speaker at the prestigious Times Higher Education (THE) conference on Cyber Security.



Speakers | THE Digital Universities MENA 2022 (timeshighered-events.com)



Agenda | THE Digital Universities MENA 2022 (timeshighered-events.com)



20. I have given a keynote speech arranged by Sonargaon University, Dhaka, Bangladesh, in seminar entitled "Industrial Revolution (IR) 5.0 – Building Human Centric Smart City of the Future Using IoT and AI – A Beginner's Insight". The event took place in the seminar room of Rector Office on 12<sup>th</sup> of August 2022. The seminar was attended by the Rector, Vice Rectors, Deans, Head of the Departments, faculty members, Students, invited guests and administration. The letter of appreciation can be found here <a href="https://www.dropbox.com/s/qv50npopjc5vdi9/Letter%20of%20Appreciation%20-%20Sonargaon%20University.pdf?dl=0">https://www.dropbox.com/s/qv50npopjc5vdi9/Letter%20of%20Appreciation%20-%20Sonargaon%20University.pdf?dl=0</a>



21. I have given a keynote speech in Khulna City Corporation in front of City Mayor, the councilors, the engineering team on title "Design and Develop Smart City Services Using Artificial Intelligence and IoT" on August 7, 2022. The letter of appreciation can be found here

 $\frac{https://www.dropbox.com/s/456lcvijfmke9k1/KCC-Letter\%20of\%20Appreciation\%20-620August\%202022.pdf?dl=0}{20August\%202022.pdf?dl=0}$ 





22. I have given a keynote speech in Khulna in front of City Mayor, the councilors, the engineering team on title "Design and Develop Smart Building Services Using Artificial Intelligence and IoT" on August 3, 2022.



23. I have given a keynote speech in Khulna University of Engineering and Technology (KUET) in front of their engineering team on title "Self-Explainable AI and IoT to Build Next Generation Secure Smart City" on July 25, 2022. Here is the letter of appreciation.

https://www.dropbox.com/s/r4bgvuyiah2nrxm/recommendationLetterKUET-

2022.pdf?dl=0

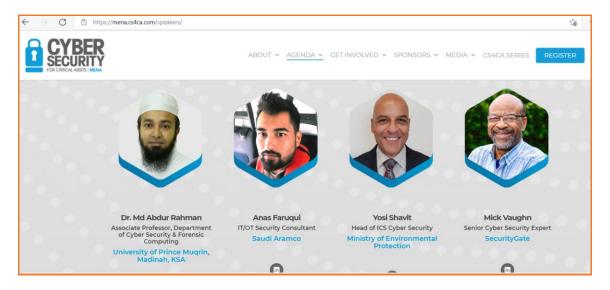


24. I have led the UPM startup booth in the MIT Startup event hosted at the King Salman Exhibition Center at Madinah on March 2022. I have presented two products to the audience. Details of the products can be seen here <a href="https://youtu.be/POJMXnWVUQU">https://youtu.be/POJMXnWVUQU</a> https://youtu.be/aUCyNVW1qwQ

- 25. I have led the startup booth at LEAP2022 and presented our UPM-MDA smart city solution in Riyadh.
- 26. I have been invited as a keynote speaker at the prestigious MENA Cyber Security Conference to be held in Dubai 2022.

Speakers | MENA Cyber Security Conference | 24-25 Jan 2022 | Dubai (cs4ca.com)

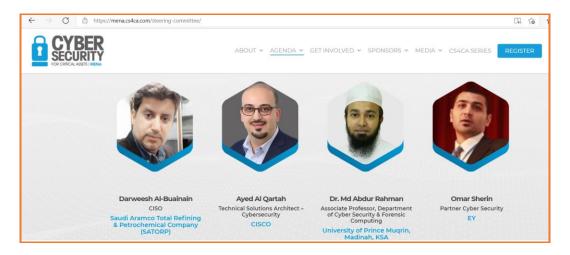
https://mena.cs4ca.com/speakers/



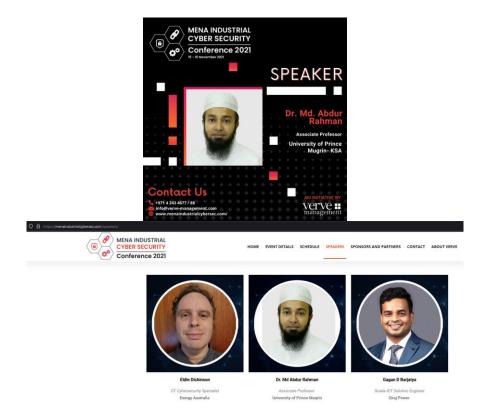
27. I have been selected as steering committee member of the prestigious MENA cyber security conference to be held in DUBAI in 2022.

Steering Committee | MENA Cyber Security Conference | 24-25 Jan 2022 (cs4ca.com)

https://mena.cs4ca.com/steering-committee/



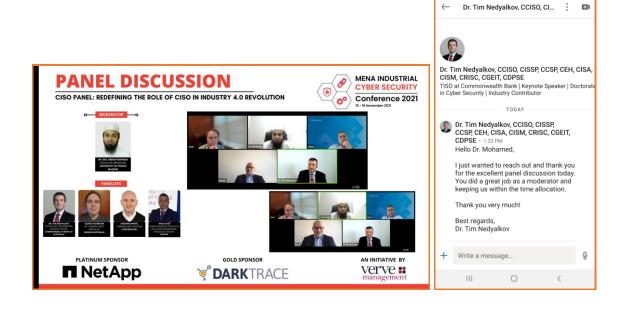
28. I have been invited as keynote speaker at the MENA Industrial Cyber Security Conference, 2021, which took place on 15-16 November 2021. <a href="https://menaindustrialcybersec.com/speakers/">https://menaindustrialcybersec.com/speakers/</a>



29. I had the honor to serve as prestigious panel moderator of the MENA industrial Cyber Security Conference 2021.

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13:38

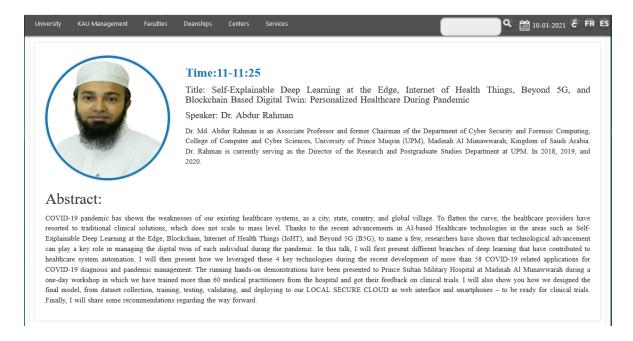


30. I Gave a lecture on Industrial Cyber Security <a href="https://twitter.com/UPMMadinah/status/1360715279525937163?s=20">https://twitter.com/UPMMadinah/status/1360715279525937163?s=20</a>

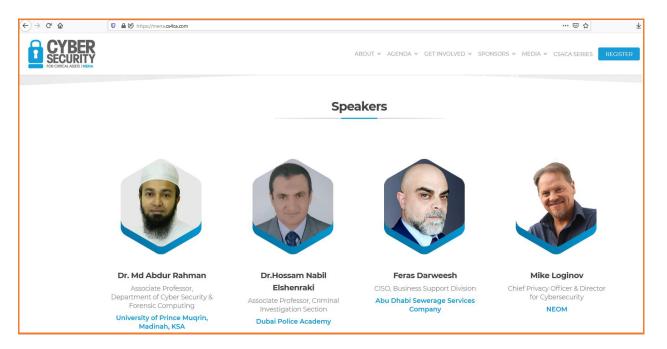


31. Dr. Md Abdur Rahman has been invited to King Abdulaziz University's (KAU) Winter Enrichment Program Lecture series. The topic of lecture has been decided to be "Self-Explainable Deep Learning at the Edge, Internet of Health Things, Beyond 5G, and Blockchain Based Digital Twin: Personalized Healthcare During Pandemic".

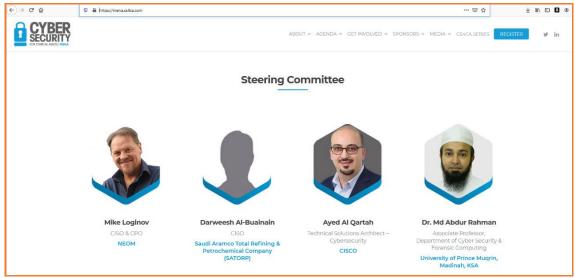




- 32. Dr. Md Abdur Rahman has organized a demo event, in conjunction with the Vice Rector for Business Development of UPM, which took place on 28<sup>th</sup> of October 2020 at UPM. In this demo event, I showed 60 AI-based deep learning applications, as part of our UPM portfolio, to Technology Control Company (<a href="https://www.tcc-ict.com/en/">https://www.tcc-ict.com/en/</a>), one of the largest Saudi Cloud providers.
- 33. I have been invited as the keynote speaker at the prestigious Cyber Security for Critical Assets Conference to be held on 1st 2nd February 2021 in Dubai, UAE (<a href="https://mena.cs4ca.com/">https://mena.cs4ca.com/</a>). The title of my talk is "Potential of AI for Protecting Critical National Infrastructure"



34. I have joined the prestigious Cyber Security for Critical Assets Conference to be held on 1st – 2nd February 2021 in Dubai, UAE (<a href="https://mena.cs4ca.com/">https://mena.cs4ca.com/</a>) as Steering Committee member.



35. I have organized a one-day workshop at Prince Sultan Military Hospital in which we have trained 60 medical doctors about our developed medical products using AI.



#### University of Prince Mugrin's

### Demo and Training Event on "AI for COVID-19 Rapid Diagnosis"

(Project ID: 05-20-01-127-0001)

#### In Association with/Funded by King AbdulAziz City for Science and Technology (KACST)

On Sunday, August 30, 2020, COVID19 Project Team under the umbrella of University of Prince Mugrin, a private non-profit higher education institution located in Madinah, Saudi Arabia, trained and demonstrated Covid19 Rapid Diagnosis using AI for the Medical Staff and other Participants of Prince Sultan Hospital for Armed Forces in AlMadinah AlMunawarah.



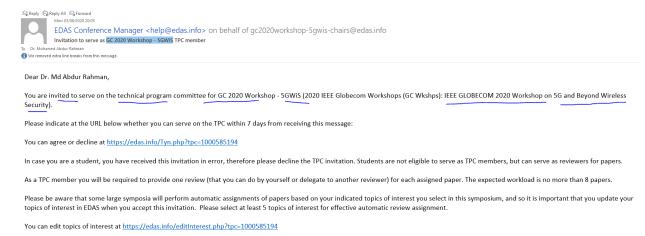
36. On Sunday, August 16, 2020, I organized an event to demonstrate the work in progress for my COVID-19 funded project at University of Prince Mugrin, in Madinah, Saudi Arabia.



The Event was attended by UPM Rector, Vice Rectors, Deans, and business investors, which was led by the PI of the project, followed by the introductory presentation and demonstration of Covid-19 related development work in progress, which is available at website: http://www.advancedmedialab.com/UPM-AI-COVID19/demo-AI.html

The project github repository contains more information <a href="https://upm-kacst-covid19.github.io/">https://upm-kacst-covid19.github.io/</a>

37. I joined as TPC member of IEEE GLOBECOM 2020 5G and Beyond Wireless Security Workshop.



Finally, I would like to ask you to submit a paper and encourage your colleagues to do the same to the 2020 IEEE Globecom Workshops (GC Wkshps): IEEE GLOBECOM 2020 Workshop on 5G and Beyond

Regards,

. .

Wireless Security Symposium

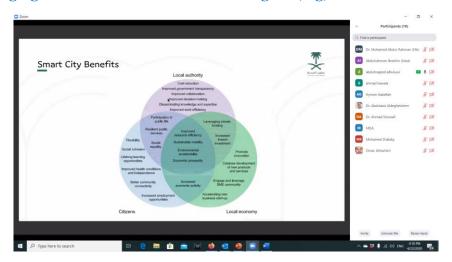
IEEE GLOBECOM 2020 Workshop 5G-Security
Min Song, Stevens Institute of Technology, USA Danda B Rawat, Howard University, USA

38. I have been invited for Keynote speech at the IEEE Multimedia Services and Technologies for Smart-Health (MUST-SH 2020) workshop to be held on **6-10 July 2020**, London, United Kingdom.

https://2020.ieeeicme-virtual.org/presentation/workshop-keynote/workshop-multimedia-services-and-technologies-smart-health-must-sh



39. I presented our UPM startup progress during meeting between UPM and Madinah Development Authority (MDA) on 22<sup>nd</sup> of April, 2020. The title of the presentation was "Managing mda affairs with artificial intelligence, 5g, and iot"



40. I gave a public talk and seminar with title "How IoT & A.I help us fight COVID-19 Global Pandemic" on 19<sup>th</sup> April 2020 through Zoom-based online broadcasting.



https://twitter.com/UPMMadinah/status/1251585792201416705?s=08

https://www.instagram.com/p/B\_IhMLRDu64/?igshid=oegu9utrayel

https://www.upm.edu.sa/en/event/how-iot-ai-technologies-help-us-fight-covid-19-global-pandemic

41. I am the technical chair of the IEEE Multimedia Services and Technologies for Smart-Health (MUST-SH 2020) workshop to be held on **6-10 July 2020**, London, United Kingdom. The details of the conference can be reached at

https://www.2020.ieeeicme.org/index.php/workshops/#Workshop8

42. I did a presentation and live demo on AI for Smart City Solutions toward establishment of a Center of Excellence in AI at UPM one 17<sup>th</sup> February, 2020.



- 43. I showed a demo To Sheikh Sudais on January 23, 2020 the following demo
  - a. AI for Smart city
  - b. Secure Smart Building Management System



- 44. I presented our Smart City Research and Development Prototype to the CEO of Elm (<a href="https://www.elm.sa/en/Pages/default.aspx">https://www.elm.sa/en/Pages/default.aspx</a>) on **25th December**, **2019**. The event was organized by the Rector office and the Office of Vice Rector for Business.
- 45. I participated at the Monshaat startup competition at the Kingdom level where all the business startups in the whole Kingdom participated and won the **first award** for our "UPM Startup-Home Physiotherapy System" on **30**<sup>th</sup> **November 2019**. Details news can be reached at

https://twitter.com/UPMMadinah/status/1201067500080893952 https://www.instagram.com/p/B6bB0BWFMQ2/





- 46. I participated at the Monshaat startup competition at the Madinah level and won the **first position** for our "UPM Startup-Home Physiotherapy System". The news is published at
  - https://twitter.com/UPMMadinah/status/1199402140445351938
- 47. I showed a demo of our Blockchain-based secure house to the CEO of red sea project. The demo event took place the female campus of UPM on 15<sup>th</sup> of November, **2019**.



https://twitter.com/UPMMadinah/status/1195308816767823872?s=19

48. Presented my blockchain integration project with the University of Glasgow 5G testbed on June 29, **2019**.





49. I presented a demo on "Secure smart facilities based on IoT and Blockchain" at the ACM International Conference on Multimedia Retrieval (ACM ICMR 2019), held in Ottawa, ON, Canada from 10-13 June, 2019.



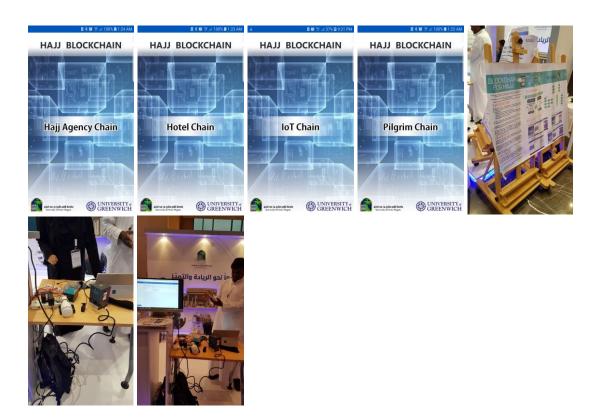
- 50. I was guest speaker at the "Prince Saud Madinah Imarah Delegation team" introduction to UPM research, which took place at the University of Prince Mugrin on 28<sup>th</sup> of April **2019**.
- 51. Invited Speaker at the 16<sup>th</sup> Learning and Technology Conference (L&T 2019), Effat University, 3rd and 4th of March 2019 in Jeddah, Kingdom of Saudi Arabia. Title of the talk is "Artificial Intelligence to Counter Next Generation Threats".



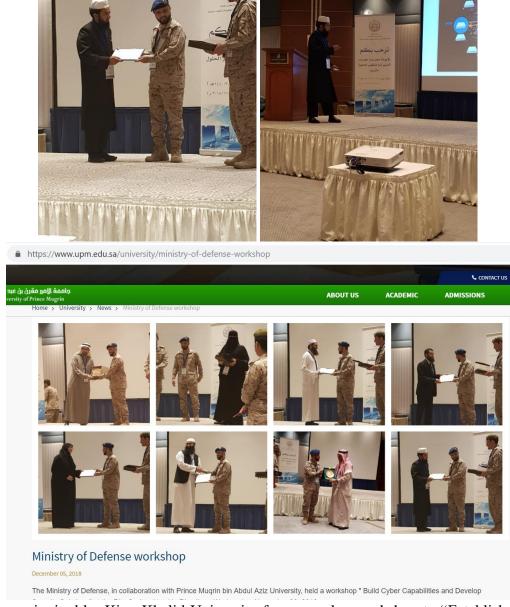
52. I was guest speaker at the National Guards Security Seminar took place at the University of Prince Mugrin on 26<sup>th</sup> of February, **2019**.



53. Presented the Blockchain for Hajj project demo in King Salman Convention Center at Madinah on 7<sup>th</sup> February **2019**. In this demonstration, we have demoed our developed Blockchain DApps.



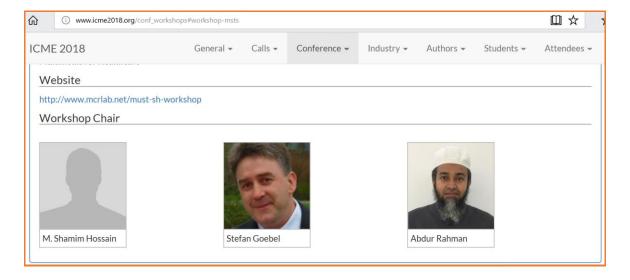
- 54. Speaker at the Jeddah Bangladesh Consulate General on a workshop in which I was the Speaker with title "Secure Consular services on Blockchain" held on 6<sup>th</sup> December, **2018**.
- 55. Speaker at the Ministry of Defense Workshop held in Ritz Carlton Hotel, Riyadh, held on 28-29 November 2018. I presented the following three topics
  - c. "Artificial Intelligence for Next Generation Threats"
  - d. "The Blockhain Revolution and its Applications to MoD"
  - e. "IoT Infrastructure Resilience and Future Paradigms"



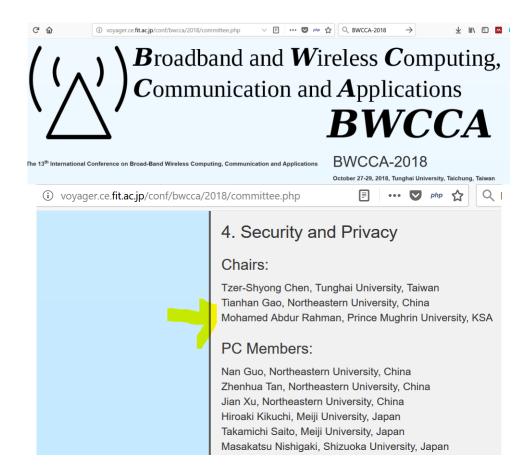
56. I was invited by King Khalid University for a one-day workshop to "Establish Artificial Intelligence Research Center at King Khalid University" held on October 2<sup>nd</sup>, 2018 at King Khalid University, Saudi Arabia.



57. I served as the workshop chair of IEEE International Conference on Multimedia and Exo (ICME) 2018, which was held on July 23-27, 2018 at San Diego, USA. <a href="http://www.icme2018.org/conf\_workshops#workshop-msts">http://www.icme2018.org/conf\_workshops#workshop-msts</a>



58. I am the **track co-chair** of the **13<sup>th</sup> International Conference** on Broad-Band Wireless Computing, Communication and Applications held in **October 27-29, 2018**, Tunghai University, Taichung, Taiwan.



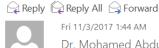
59. Speaker at the 4<sup>th</sup> Euro-Global Physiotherapy congress 2017 to be held in Rome, Italy, December 7-8, 2017

09:45 -11:30	Workshop title: Rehabilitative techniques in Proctology				
11:30-11:55	Title: Pelviperineal kinesitherapy				
	Arianna Bortolami, Garibaldi Nesima Hospital , Italy				
11:55-12:15	Title: Tibial electrostimulation				
	Filippo La Torre,Sapienza University , Italy				
12:15-12:40	Title: Rehabilitation of obstructed defecation :Techniques and treatment outcomes				
	Filippo Pucciani, University of Florence, Italy				
12:40-01:00	Title: Skeletal muscle atrophy and hypertrophy after Spinal Cord Injury				
12.10-01.00	Ashraf S. Gorgey, Virginia Commonwealth University , USA				
	Lunch Break: 1:00-2:00 @ hotel Restaurants				
	Major Sessions: chair : Tomasz Karski, Poland   co chair:Wael Abo El-Kheir, Egypt				
	Physiotherapy Techniques and Exercises /Sports & Physiotherapy/Advancements in Physiotherapy/Manual Physiotherapies/Rehabilitation Method:				
02:00-02:20	Title: Novel Strategies for Battling Obesity and Reducing Cardiometabolic Disease Risk in Those with Paralysis				
	David R. Dolbow, University of Southern Mississippi, USA				
02:20-02:40	Title: School Physiotherapy Program: effects on the improvement of non-specific low back pain and postures adopted in adolescents				
	Beatriz Minghelli, Piaget Institute, Portugal				
02:40-03:00	Title: Thermobalancing therapy® and Dr Allen's Devices are an excellent physiotherapy tool for treating chronic conditions that cause pain and other troubling symptoms				
	Simon Allen, Fine Treatment, United kingdom				
02.00.02.20	Title: Immune responses following McKenzie lumbar spine exercise in individuals with acute low back pain: A preliminary study				
03:00-03:20					
	Saud Al-Obaidi, Kuwait University, Kuwait				
03:20-03:40	Title: A Context-Aware, Multimedia, Multi-Modal, and Language Independent Big Data-Based Dyslexia Screening Framework with Auto-Grading Capability				
	Elham Hassanain, university of prince mugrin, Saudi Arabia				
03:40-04:00	Title: m-Therapy: A Multi-sensor Framework for in-home Therapy Management: A Therapy of Things Perspective				
	Mohamed Abdur Rahman,university of prince mugrin , Saudi Arabia				
04:00-04:20	Title: Physiotherapy project of the GP's cluster Model Program in Hungary				
	llona Veres-Balajti, University of Debrecen , Hungary				

- 60. Workshop Chair at 4<sup>th</sup> Euro-Global Physiotherapy congress 2017 to be held in Rome, Italy, December 7-8, 2017.
- 61. Invited Speaker at the 1<sup>st</sup> International Conference of Smart World 2017 (ICSW-2017) was held in Xi'an Qujiang International Conference Center, China during September 25-27, 2017.



62. Invited Poster Session Presentation in KAUST-NSF Environmental Monitoring Conference on 6th – 8th Nov 2017, Jeddah.



Dr. Mohamed Abdur Rahman

Re: Call for Posters: KAUST-NSF Conference on Environmental Monitoring: Foundations and Applications 6 - 8 Nov.

To Tareq AlNaffouri

Cc Somaya Adwan; Dean CSIT; Hebatalla Mahmoud; Nada H. Ezzeddine; Dr. Mohamed Abdur Rahman

From: Tareq AlNaffouri < <a href="mailto:tareq.alnaffouri@kaust.edu.sa">tareq.alnaffouri@kaust.edu.sa</a>>

Sent: Thursday, November 2, 2017 11:38:22 PM

To: Dr. Mohamed Abdur Rahman

Cc: Somaya Adwan; Dean CSIT; Hebatalla Mahmoud; Nada H. Ezzeddine

Subject: Fwd: Call for Posters: KAUST-NSF Conference on Environmental Monitoring: Foundations and Applications 6

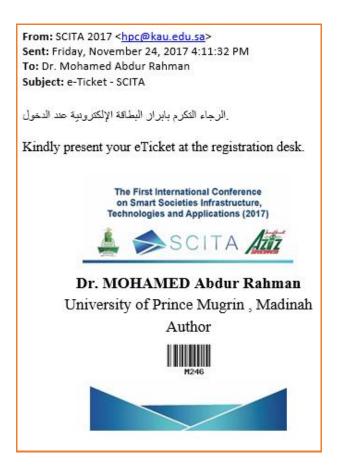
- 8 Nov. 2017

Dear Dr. Rahman,

The email below describes the poster requirements. Since online submission is not possible now, kindly bring the poster on Tuesday for the poster session.

Thanks and regards

63. Invited Speaker at SCITA 2017 Conference, King Abdulaziz University, Jeddah from 27 to 29th November 2017.



64. Invited Speaker at International Engineering Conference and Exhibition IECE in (Riyadh, Saudi Arabia) 4-7 December 2017.



	REGISTRATION				
07:30 AM - 09:00 AM	LOCATION	HALL 1	HALL 2	HALL 3	HALL 4
	Track Name	Project Management and Value Engineering	Structural and Mining Engineering and Geology	Computer & Communications Engineering	Renewable Energy
09:00 AM - 09:30 AM	Keynote Speaker	Mr. Mark Dickson President, Project Management Institute (PMI)	Professor David Nethercot Past Head of the Department of Civil and Environmental Engineering at Imperial College	H.E. Prof. Abdulaziz Al-Ruwais-Governor of telecommunications and information technology commission(CITC)	Eng. Ziyad Mohammed Al-Shiha, President and CEO of Saudi Electricity Company (SEC)
09:30 AM - 10:00 AM	BREAK				
	Topic1	Public Private Partnership (PPP)	Codes and Sustainability	Kingdom 2030 Vision for Telecommunications Development Transformation toward Support to Local Innovations, Initiatives and Regularity Plan	Energy Applications in Water Desalinati
	Session Chair	Eng. Ahmed Bin Khalifa Al-Mulhim	Mohammed Bin Ahmed Alshankyty	H.E. Dr. Abdulrahman Alorainy - Strategic Consultant(ICT) and Ex. Minster's advisor and member of the board to serveral agencies	Eng. Bander Ahmed Allaf, CEO, Juffal Energy and Utilities
10:00 AM - 11:00 AM	Speaker Name 1	Mr. Javier Poveda, ARC	Prof. Omar Al-Amoudi, King Fahd University	Prof. Saad Bakry, King Saud University	Eng. Yousef AL-Sehli
	Paper Topic	Effective Strategies for Public Private Partnerships PPP Case Study: PPP - Unsolicited Proposal (USP) in Healthcare Facilities Case Study: PPP - Unsolicited Proposal (USP)	Concrete in the Saudi Building Code: Comparison with ACI 318 to Produce Sustainable Structures	KSA Vision 2030 & International ICT Indicators: Toward an Integrated ICT Index	Development and Study of a New Clean and Cooling Mechanism for Photovolte Flat Panel Efficiency Improvement
	Speaker Name 2	Dr. Faisal Al-Sharif, Private sector	Eng. Saeed Kadasa, Ministry of Municipal and Rural Affairs	Dr.Mohamed Abdu Rahman	Prof. Noreddine Ghaffour, King Abdulla University of Science and Technology (KAUST)
	Paper Topic	Catalysts and Obesticals of PPP Project's Applications	Defining the Saudi Codes	Next Generation Hajj Experience in a Smart City: Vision 2030 Perspective	Integrated Renewable Energy-Driven a Energy-Efficient Innovative Desalination Technologies for Water Supply

65. I organized a workshop at King Abdullah Medical City as general chair. The event took place on 3<sup>rd</sup> May 2015 at Makkah.



# **UPM Startup**

I have established the **UPM startup** entitled "**Secure Smart Building Management System - SSBMS**" with the initial investment of **1M SAR** from external investor. Following are some other start-ups that I have been helping.

#	Title of the Start-up	Category
1	Design and Develop Natural User Interface-based next-generation in-home digital twin for therapy management System of old-age population	Health Technology
2	Life-SENSE: A Secure Occupational Therapy Framework for Monitoring and Improving Cancer Patients' Quality of Life	Health
3	Design and Develop a Proof of Location-Based Spatial Blockchain System for Land Registry Management Ecosystem in Saudi Arabia	Service
4	Blockchain-based Saudi Government and Educational Certificate Verification System	Education
5	The Potential Short- and Long-Term Disruptions and Transformative Impacts of B5G and 6G Wireless Networks: Preparing different Business Verticals and Telcos in Saudi Arabia to Support Vision 2030	Technology
6	A Digital, Secure, and Efficient Energy Ecosystem through Social Change	Service
7	TRACE: "Secure nexT geneRation self-manAged inter-ConnectEd mobility management System for the Holy City of Madinah Al Munawwarah"	Technology
8	Hajj Blockchain: Secure, Decentralized hajj & Umrah Event Management system	Service
9	Explainable AI (XAI) for doctor-machine teaming – Bringing trust, privacy, semantic interpretation, explainability and reasoning to Healthcare services	Health Technology
10	Industry 4.0-based Framework to Provide Context-Aware Sharing Economy Services in a Smart City	FinTech
11	TRAC3R (Tracer): Circular Economy for Digital TRaceability And Control in the Reduction, Reuse and Recycling by leveraging IoT for Industry 4.0	Industrial
12	Location-Aware Indoor and Outdoor Environment Sensing in two Holy Cities based on IoT, Blockchain, Real-time Database and Explainable AI	Technology
13	Transforming Insurance Settlements: Real-Time Processes through Blockchain, Internet of Things and Explainable AI	Service
14	Design and Develop AI and Blockchain-based automated, secure Will and Probate management system in Saudi Arabia	Service
15	Providing Back-office document management and data communication Security to Saudi Embassy and Consular Services around the globe	Technology
16	Secure, B5G Connected Drone swarm through AI-Powered Self-Organized Network	Technology
17	Design and Develop a Secure, Crowdsourced Proof-of-Location and Proof-of- Event Administered OpenStreetMap Database: Towards Developing an Accurate and Detailed Live Digital Road Network for the Holy City of Madinah	Technology

## **Awards**

• Best Presentation Award at IEEE Big Data, 2015

The Best Presentation Award in Workshop: Big Data for Sustainable Development

CONGRATULATIONS!

Title: A Spatio-temporal Multimedia Big Data Framework for a Large Crowd Authors: Bilal Sadiq, Faizan Ur Rehman, Akhlaq Ahmad, Abdullah Murad, Ahmad Lbath, Md. Abdur Rahman, Sohaib Ghani

On behalf of Program Committee of Big Data for Sustainable Development which was held in Santa Clara on 1 November 2015 associated with the 2015 IEEE International Conference on Big Data (IEEE Big Data 2015), we declare that the paper above mentioned deserves the best presentation award since their presentation was performed the best in all the papers presented in our workshop.

Best Demo Award at ACM SIGSPATIAL 2014 Conference



Best Paper Award at ICT4M 2014 Conference



 My Hajj and Umrah KACST funded project has been awarded by the Honorable Rector of Umm Al-Qura University and HE Prince Khalid Bin Faisal Bin Abdul Aziz Al-Saud, Governor of Makkah, Kingdom

سمو أمير منطقة مكة يدشن التطبيق الذكي للحج لجامعة أم القرى



#### Professional Development Activities (within and outside of the institution)

- I finished 3 days professional training certification on "Put Generative AI To Work".



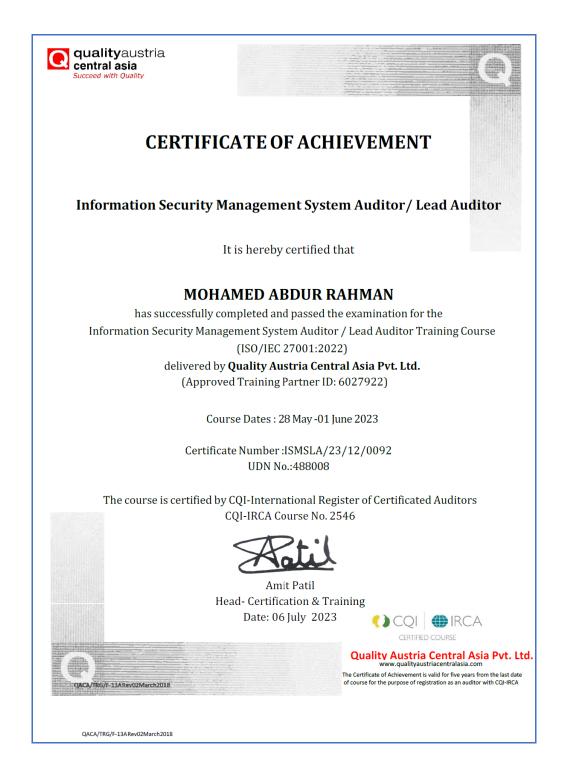
- I became ISACA Certified Information Systems Auditor (CISA).



- I became ISACA Certified Information Security Manager (CISM).



- I became certified ISO 27001:2022 Lead Auditor.



- I have received a professional certificate from Elsevier for contributing to the UN SDG in the following paper.



#### **Congratulations**

#### Md Abdur Rahman

For publishing an open access article with Elsevier between 2019–2021!

Your article was linked to the United Nations Sustainable Development Goals, helping to tackle some of the world's greatest challenges.



From: Editorial Board <STMJournals@author.email.elsevier.com> Sent: Thursday, October 27, 2022, 3:36 PM

To: Dr. Mohamed Abdur Rahman <m.arahman@upm.edu.sa>
Subject: Your open access research is helping solve the world's greatest challenges

#### Thank you for your contribution to open science!



Dear Md Abdur Rahman,

As part of International Open Access Week 2022, we would like to celebrate the contribution you have made to open

At Elsevier, we believe that open science has the power to drive societal progress and advance the United Nations (UN) Sustainable Development Goals (SDGs). Making knowledge freely accessible to anyone, anywhere can play a fundamental role in achieving a sustainable and equitable future.

Between 2019–2021, you published an open access article with Elsevier, receiving a total of 1,493 downloads. Your article was linked to the UN SDGs, helping to tackle some of the world's greatest challenges.

#### Your top downloaded open access article linked to the SDGs was:

Article	Downloads		Sustainable Developm
Current status and future perspectives on the Internet of Things in oncology	1,493	and	G 3: Ensure healthy lives of promote well-being for all at all ages OG 7: Ensure access to affordable, reliable, stainable, and modern energy for all

We wish you the best for your continued success.



Open. With you, for you

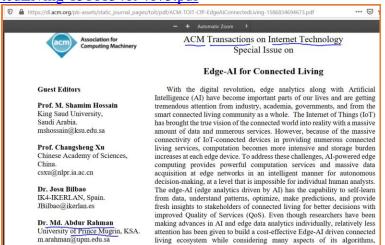
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I became the Guest Editor of the Prestigious ACM Transactions on Internet Technology <a href="https://dl.acm.org/pb-assets/static\_journal\_pages/toit/pdf/ACM-TOIT-CfP-EdgeAIConnectedLiving-1586834694673.pdf">https://dl.acm.org/pb-assets/static\_journal\_pages/toit/pdf/ACM-TOIT-CfP-EdgeAIConnectedLiving-1586834694673.pdf</a>



 I have received the following certificate for conducting a training session to medical doctors at Madinah Military Hospital in which I have trained the doctors how to use AI for COVID-19 diagnosis.



- I became the TPC member of THE FIFTH IEEE WORKSHOP ON 5G AND BEYOND WIRELESS SECURITY (5TH IEEE WIRELESS-SEC 2021) <u>WS-04: The Fifth IEEE Workshop on 5G and Beyond Wireless Security (5th IEEE Wireless-Sec 2021) | IEEE Global Communications Conference 2021 IEEE GLOBECOM (ieee-globecom.org).</u>
- I became member of Scientific Committee of Fourth National Computing Colleges Conference (4th NCCC) to be held at Taif, Saudi Arabia, March 27-28, 2021. https://webapps.tu.edu.sa/TuNC4/
- I became member of Program Committee of 7<sup>th</sup> International Conference on Information and Communication Technologies for Ageing Well and e-Health (ICT4AWE 2021) to be held on 24-26 April, 2021 (http://www.ict4ageingwell.org/ProgramCommittee.aspx)
- I became member of Program Committee of 18<sup>th</sup> International Conference on Signal Processing and Multimedia Applications (<a href="http://www.sigmap.org/ProgramCommittee.aspx">http://www.sigmap.org/ProgramCommittee.aspx</a>)
- Member of Editorial Board, Journal of College of Computer, and Information Systems, Umm Al Qura University, KSA, (2012-2016)
- Reviewer, Ministry of Higher Education, KSA (2012)
- Reviewer for the following transactions: IEEE COMMUNICATIONS MAGAZINE, IEEE TIM, ACM TOMCCAP, IEEE Sensors, Journal of Multimedia, Journal of MTAP, IEEE TITB, ACM ToIT.
- Reviewer for following conferences: ISSPA, WiCON, IEEE I2MTC, IEEE ICME.

#### **Professional Courses and Certifications**

Total Number of Cyber Security Related Certificates: 128

Total Number of AI-Related Certificates:45

Areas in which I have obtained the certificates are following:

- COMPLIANCE and STANDARD ISO 19011, ISO 27001, ISO 27005, ISO 27701 LEAD AUDITOR, CISv8, NIST 800-171
- CISSP Certification
- Industrial Security Auditor Certificate
- Network Security Certificates
- DRONE Programming
- Automobile Hacking
- Red Teaming Certificates
- Industrial Control Systems (ICS) / Operational Technology (OT) Security
- Ethical Hacking, Pen testing, & Bug bounty Related Certificates
- Threat Hunting Security Operational Center Analyst
- ChatGPT Related Certificates
- Data Privacy Related Certificates
- Cloud and Network Security Certificates from Vendors
- Attack and Defense Related Certificates
- Community Services Related Certificates
- Certification for Contributing UN SDG from Elsevier
- Augmented Reality, Virtual Reality, Mixed Reality, Digital Twin and Metaverse Related Certificates
- Web Security Certificates
- DarkWeb Security and Cybercrime Analysis Certificates
- Security Incident Response
- Cyber and Network Security Hands-on Labs Related Certificates
- Artificial Intelligence for Cyber Security and Securing AI
- Offensive Security Certificates
- Cryptography Hands-on Certificate
- Blockchain Certificate
- Smartphone/Android Hacking Certificate
- Intrusion Detection System Related Certificate
- IOT Security Certificate
- Operating System Hardening and Security

All the certificates can be downloaded from the following link:

 $\underline{\text{https://www.dropbox.com/scl/fi/h4sn676czoa325uitivk3/ALL-my-Certificates-August26-2023.pdf?rlkey=5jweavbic4j6o4qzw6yz0utq8\&dl=0}$ 

# List of Products Developed from the KACST STU funded projects where I am the Principal Investigator

#### T 0 1: Smart Hajj (Hajj 2015)

Vi 1: Android based Smart Phone/tablet Application

https://play.google.com/store/apps/details?id=com.smarthajj&hl=en

• iOS based smart phone/tablet Application



#### T 0 2: Family Connect (Hajj 2015)

Vi 2: Android based Smart Phone/tablet Application

https://play.google.com/store/apps/details?id=com.familyconnect&hl=en

• iOS based smart phone/tablet Application



## T 0 3: Hajj Messenger (Hajj 2015)

Vi 3: Android based Smart Phone/tablet Application

https://play.google.com/store/apps/details?id=com.familyconnect&hl=en

• iOS based smart phone/tablet Application



# T 0 4: Perform Hajj & Umrah (Hajj 2014)

Vi 4: Android based Smart Phone/tablet Application

https://play.google.com/store/apps/details?id=com.hajjandumrah&hl=en

• iOS based smart phone/tablet Application

https://itunes.apple.com/sa/app/perform-hajj-umrah/id917265874?mt=8



#### T 0 5: Family Connect (Hajj 2014)

Vi 5: Android based Smart Phone/tablet Application

 $\underline{https://play.google.com/store/apps/details?id=com.familyconnect.pro\&hl=en}$ 



#### TO 6: Hajj Agency (to come)

- Android based Smart Phone/tablet Application
- iOS based Smart Phone/tablet Application



## T 0 7: Multimedia Diary (Hajj 2016)

Vi 6: Android based Smart Phone/tablet Application



# T 0 8: Vehicle Connect (Hajj 2016)

Vi 7: Android based Smart Phone/tablet Application



# T 0 9: Multimedia Routing (Hajj 2016)

Vi 8: Android based Smart Phone/tablet Application



## T 0 10: Multimedia Diary (Hajj 2016)

Vi 9: Web Based Application for Multimedia Diary



## T 0 11:Web based Applications

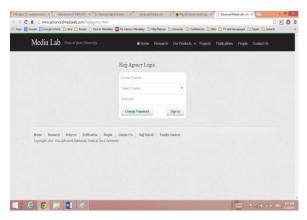
Web Based Application for Hajj & Umrah

http://www.advancedmedialab.com/hajjumrah.html



• Web based Application for Hajj Agency

http://www.advancedmedialab.com/hajjagency.html



• Web based Application for Family Connect

http://www.advancedmedialab.com/familyconnect.html



- Web based e-Therapy Application
  - <a href="http://advancedmedialab.com/e-health/">http://advancedmedialab.com/e-health/</a>

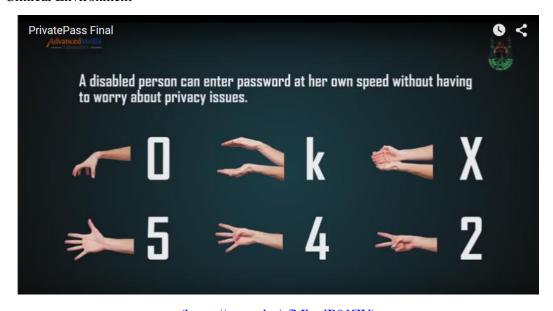


• Therapy Authoring to Create Customized and Personalized Therapies



(https://youtu.be/zDuk4yFiCrw)

• Multi-Sensory Gesture Based Login for People with Special needs and Doctors in Clinical Environment



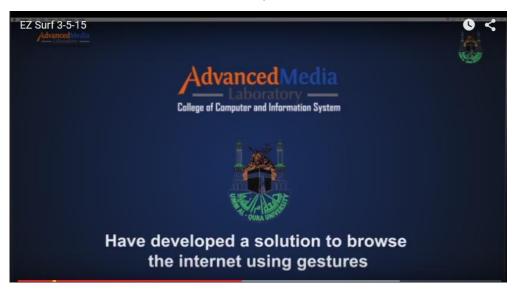
(https://youtu.be/cfMhgdB91ZY)

Gesture based Serious Games for Physical Therapy



(https://youtu.be/ROecDwCLhKE)

• Gesture based Clinical Data Browsing for Patients and Medical Doctors



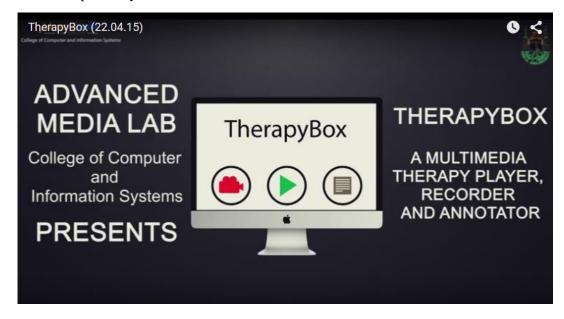
(<a href="https://youtu.be/N\_WcXi4MVlk">https://youtu.be/N\_WcXi4MVlk</a>)

• Multimedia Big Data support of e-Health applications



(https://youtu.be/2HZp6XFSH7I)

• Recording, annotation and Playback of in-house multimedia therapy exercises with Kinect, Leap and Myo



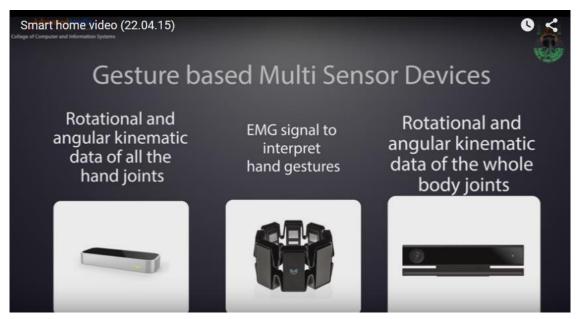
(https://youtu.be/bzs2JtTS75Y)

• Pilgrim e-Health Services



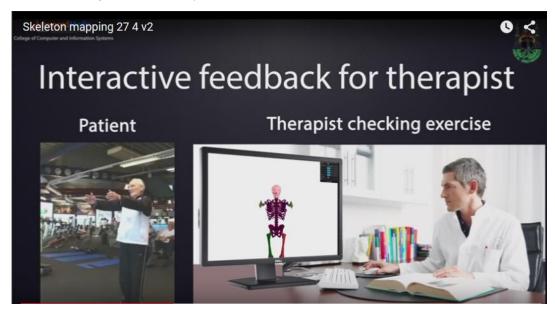
(https://youtu.be/FvBcyCNZPFk)

• Smart home appliance control using natural user interfaces: occupational therapy imperative



(<a href="https://youtu.be/5GAeP4DNbqc">https://youtu.be/5GAeP4DNbqc</a>)

• Mapping Physical Human Joint-motion in Physical World with Virtual Reality 3D Skeleton Through Multi-Sensory Environment



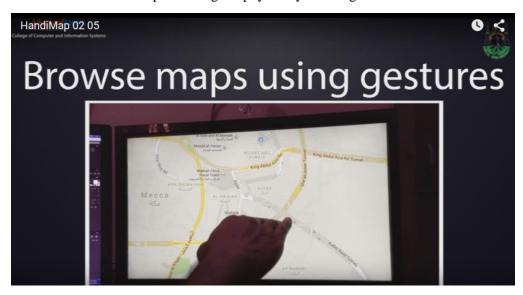
(https://youtu.be/REcr6fThVu0)

• Multi-sensory, Non-Invasive Whole-Body Range of Motion Detection for Quality of Improvement Measurement



(https://youtu.be/xRj518EPTH4)

• Gesture based map browsing for physically challenged



(https://youtu.be/olY9ZhVCpOE)