

Name: Mohamed Abdur Rahman

Affiliation: Assistant Professor, Computer Science Department

Director, Advanced Media Laboratory (<http://www.advancedmedialab.com>)

Umm Al-Qura University

Makkah Al Mukarramah

Education – degree, discipline, institution, year:

- 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
- B.Sc. in Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, 2000

Academic experience:

- Assistant Professor, Computer Science Dept., Umm Al Qura University, KSA, (Feb. 2011-present)
- Member, Graduation Project Co-ordination Committee, College of Computer and Information Systems, Umm Al Qura University, KSA, (2011-present)
- Coordinator, Undergraduate Final Year Project, Computer Science Dept., Umm Al Qura University, KSA, (2011-present)
- Course Coordinator, Undergraduate Computer Science Course Curriculum, Computer Science Dept., Umm Al Qura University, KSA, (2011-present)
- Research Associate, Learning and Collaborative Technologies, Institute for Information Technology, National Research Council (NRC), Canada, (2008-2010)

Non-academic experience:

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

Current membership in professional organizations:

- Member, IEEE
- Member, ACM
- Member, GIS TIC

Honors, grants and awards:

- Mohamed Ahmed, Mohamed Abdur Rahman and Sonia Hashish, “Automated Arabic Emotion and Sentiment Analysis for major events and government services”, submitted to ISR in June 2012 worth 200, 000 SAR.
- Received a grant from KACST with the title “Query Processing and Optimization in Spatiotemporal Database Systems”, worth 2 million SAR, in March 2011.
- 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.
- 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.

- My PhD thesis was nominated as the “BEST THESIS” from the School of Information Technology and Engineering (SITE) of University of Ottawa.
- My Master’s thesis was nominated as the “BEST THESIS” from the School of Information Technology and Engineering (SITE) of University of Ottawa.
- 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

Service activities (within and outside of the institution):

- Member of Editorial Board, Journal of College of Computer and Information Systems, Umm Al Qura University, KSA, (2012-present)
- Reviewer, Ministry of Higher Education, KSA (2012)
- Reviewer for the following transactions: IEEE TIM, ACM TOMCCAP, IEEE Sensors, Journal of Multimedia, Journal of MTAP, IEEE TITB.
- Reviewer for following conferences: ISSPA, WiCON, IEEE I2MTC, IEEE ICME.

List of most important publications:

JOURNALS:

J1. **Md. Abdur Rahman**, "Multimedia Environment toward Analyzing and Visualizing Live Kinematic Data for Children with Hemiplegia", MULTIMEDIA TOOLS AND APPLICATIONS, Springer [accepted] (UQU Affiliation).

J2. M. S. Hossain, A. Alghamdi, A. Alelaiwi, and **Md. Abdur Rahman**, "QoS in Web Service-based Collaborative Engineering Education Environment", International Journal of Engineering Education, August 2013 [ISI-Indexed: 0.4][Accepted] (UQU Affiliation).

J3. **Md. Abdur Rahman**, Abdulmotaleb El Saddik, "Context-Aware Multimedia Services Modeling: An e-Health Perspective", MULTIMEDIA TOOLS AND APPLICATIONS, Springer, July 2013, DOI: 10.1007/s11042-013-1595-5. (UQU Affiliation).

J4. **Md. Abdur Rahman**, and Abdulmotaleb El Saddik, “Modeling e-Health Framework towards Personalized and Context-Aware Multimedia Services”. Handbook of Innovative Medical Technologies, Springer, eds. Borko Furht and Ankur Agarwal, July 2013. (UQU Affiliation).

J5. **Md. Abdur Rahman**, Heung-Nam Kim, Abdulmotaleb El Saddik, and Wail Gueaieb, "A context-aware multimedia framework toward personal social network services", Journal of Multimedia Tools and Applications, Springer US, vol. 61, no. 3, pp. 1-31, 2012 (UQU Affiliation).

J6. **Md. Abdur Rahman**, Abdulmotaleb El Saddik, and Wail Gueaieb, “Augmenting Context Awareness by Combining Body Sensor Networks and Social Networks”. IEEE Transactions on Instrumentation and Measurement, vol. 60, no. 2, pp. 345 - 353, 2011.

J7. **Md. Abdur Rahman**, Abdulmotaleb El Saddik, and Wail Gueaieb, “Building Dynamic Social Network From Sensory Data Feed”. IEEE Transactions on Instrumentation and Measurement, vol. 59, no.5, pp. 1327-1341, 2010.

J8. **Md. Abdur Rahman**, Abdulmotaleb El Saddik, and Wail Gueaieb, “Wireless Sensor Network Transport Layer: State of the Art”. In Subhas Mukhopadhyay and Ray Huang, editors, Sensors: Advancement In Modeling, Design Issues, Fabrication And Practical Applications, LECTURE NOTES IN ELECTRICAL ENGINEERING. Springer-Verlag, vol. 21, pp. 221-245, April 2008.

J9. Abdulmotaleb El Saddik, **Md. Abdur Rahman**, Souhail Abdala and Bogdan Solomon, “PECOLE: P2P Multimedia Collaborative Environment”. INTERNATIONAL JOURNAL OF MULTIMEDIA TOOLS AND APPLICATIONS, Springer, vol. 39, no. 3, pp. 353-377, Sep. 2008.

J10. **Md. Abdur Rahman**, Suruz Miah, Wail Gueaieb and Abdulmotaleb El Saddik, “SENORA: A P2P Service Oriented Framework for Collaborative Multi-robot Sensor Network”. IEEE SENSORS JOURNAL, vol. 7, no. 5, pp. 658-666, May 2007.

J11. **Md. Abdur Rahman**, A. El Saddik, "Modified Syntactic Method to Recognize Bengali Handwritten Characters", IEEE Transactions on Instrumentation and Measurement, vol. 56, no. 6, pp. 2623 - 2632, 2007.

CONFERENCES:

C1. **Md. Abdur Rahman**, Saleh Basalamah, Asad H. Toonsi, and Abdulmotaleb El Saddik, “A Framework Toward Detecting and Visualizing Kinematic Data for Children with Hemiplegia”, 15th IEEE International Conference on e-Health Networking, Application & Services (IEEE Healthcom, 2013), Lisbon, Portugal, October 9 – 12, 2013.

C2. **Md. Abdur Rahman** and Mohamed Ahmed, "EMOTION-BASED MASHUP FOR SOCIAL MEDIA CONTENTS", 19th International Conference on Distributed Multimedia Systems (DMS 2013), Brighton - Seafront, United Kingdom, August 8 - August 10, 2013.

C3. Mohamed Ahmed and **Md. Abdur Rahman**, "Towards a Semantic Multimedia Content Retrieval Framework", 19th International Conference on Distributed Multimedia Systems (DMS 2013), Brighton - Seafront, United Kingdom, August 8 - August 10, 2013.

C4. **Mohamed Abdur Rahman**, M. Ahmed, and S. Basalamah, "Context-Aware Mobile Services for Hajj and Umrah", 13th workshop of Hajj and Umrah research, Makkah Al Mukarramah, 30 April 2013 - 2 May 2013 (UQU Affiliation).

C5. **Md. Abdur Rahman**, Ahmad M. Qamar, Mohamed A. Ahmed, M. Ataur Rahman, and Saleh Basalamah, "Multimedia Interactive Therapy Environment for Children Having Physical Disabilities", International Conference on Multimedia Retrieval, Dallas, USA, April 16-19, 2013 (UQU Affiliation).

C6. 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 (UQU Affiliation).

C7. **Md. Abdur Rahman**, Abdulmajeed Alkhaldi, Jongeun Cha and Abdulmotaleb El Saddik, "Adding Haptic Feeling to YouTube," ACM Multimedia, Firenze, Italy, October 25-29, 2010.

C8. **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.

C9. **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.

C10. 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.

C11. **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.

C12. **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.

C13. **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.

C14. **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.

C15. **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.

C16. 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.

C17. 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.

C18. 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.

C19. **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.

C20. **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.

C21. **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

C22. 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.

C23. 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.

C24. 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.

C25. 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.

C26. **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.

List of most recent professional development activities:

- Designer and Developer of Graduation Project Handbook and Online Project Management System, Umm Al Qura University
- ABET Accreditation Workshop, Umm Al Qura University
- Workshop on Apple Labs Development, Umm Al Qura University.