

Curriculum Vitae

Mohammad Mehedy Masud

Associate Professor, College of IT (CIT), United Arab Emirates University (UAEU)

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PROFILE HIGHLIGHTS

- Published more than 60 research articles in impact factor journals and high ranking conferences.
- *Lead author of the book* “data mining tools for malware detection” (CRC Press, Dec 2011) and author of another book “Big Data Analytics with Applications in Insider Threat Detection” (CRC Press, Dec 2017)
- *Principal inventor of a US Patent* “Systems and Methods for Detecting a Novel Data Class”. US Patent 9,165,051, Awarded in 2015.
- Awarded more than 8 million Dirhams (equivalent to 2 million \$US) research grant as PI or Co-PI
- Received *University Merit Excellence Award* from UAEU, 2020 for excellent performance in research, teaching and service.
- Received *University Merit Excellence Award* from UAEU, 2019 for excellent performance in research, teaching and service.
- Received *College Excellence Award in Service* for outstanding service accomplishments, 2019
- Received *College Excellence Award in Research* for outstanding research accomplishments, 2018
- Received *Academic Award for Research Excellence* (AARE) from UAE Education and Knowledge (ADEK) council, 2017.
- Received prestigious *research award* from UAEU for publication in high ranked journal, 2015.
- Lead guest editor of Journal of Computer Networks and Communications
- Official reviewer of 20+ Impact Factor Journals (including IEEE Transactions)
- Served organizing committees and TPCs of 15+ international conferences and workshops including CIKM, ICDM, and WWW.
- Delivered Keynote speeches, invited talks, and tutorials in 8+ international conferences and workshops.
- More than 11 years of teaching experience as a Faculty member.
- Fully developed six courses; two graduate and four undergraduate.
- Taught four different graduate and eleven different undergraduate courses.
- Supervisor of five MS students (two graduated) and three PhD students (one graduated).
- Supervised nine undergraduate senior projects; three of them received the best senior project awards.
- Awarded grant for senior project on Emirates Mars Mission from National Space Science & Technology Center (NSSTC).
- Mentor of computer programming teams at CIT, UAEU.

EDUCATION

PhD, University of Texas at Dallas, Richardson, TX - December, 2009

Computer Science.

Dissertation title: Adaptive Classification of Scarcely Labeled and Evolving Data Streams.

Supervisor: Dr. Latifur Khan, Professor, Computer Science.

MS, University of Texas at Dallas, Richardson, TX - May 2008, GPA 4.0/4.0

Computer Science.

BS, Bangladesh Univ. of Eng. and Tech., Dhaka, Bangladesh - Aug 2001, GPA: 3.93/4.0

Computer Science and Engineering.

EXPERIENCE

Associate Professor

Sep 2016 – Present

College of Information Technology, United Arab Emirates University

PO Box 15551, Al Ain, UAE

Assistant Professor

Jan 2012 – Aug 2016

College of Information Technology, United Arab Emirates University

PO Box 15551, Al Ain, UAE

Post Doctoral Fellow (Research Associate) Mar 2010- Dec 2011

Dept. of Computer Science, University of Texas at Dallas Richardson, TX, USA

Research Assistant (Jun 2006-Dec 2009) and **Teaching Assistant** (Aug 2005-May 2006)

Dept. of Computer Science, University of Texas at Dallas, Richardson, TX

Assistant Professor (Mar 2005-Jul 2005) and **Lecturer** (Aug 2001-Feb 2005)

Computer Science and Engineering, Bangladesh U. of Engg. & Tech., Dhaka, Bangladesh

AWARDS

- University merit excellence award, Awarded by UAEU, May 2020. It is a highly competitive award in recognition to the contribution to research, teaching and service to the University.
- University merit excellence award, Awarded by UAEU, May 2019
- College award for excellence in Service, Awarded by College of IT, UAEU, April 2019
- College award for excellence in Research, Awarded by College of IT, UAEU, May 2018
- College research collaboration award, Awarded by College of IT, UAEU, June 2018
- *Academic Research Excellence Award*, Awarded by UAE Dept. of Education and Knowl. (ADEK), 2017
- *Research Award* for publishing in high ranking Journal, UAEU, May 2015
- *Best senior project* awarded to a senior project I supervised, January 2015 and *2nd best senior project award* for senior project supervision, May 2018
- *Distinguished service* award, College of IT, UAEU, June 2014.
- Prestigious Louis Beecherl Jr. *Graduate Fellowship*, Univ. of Texas at Dallas, June 2009.
- *Student travel* award from Siam International Conf. in Data Mining (SDM), April 2009.

RESEARCH ACCOMPLISHMENTS

Research Interests

Data Streams: Data stream classification and clustering, coping with concept-drift in data streams, classification and novel class detection in concept-drifting data streams, text stream classification, classification and clustering of data streams with dynamic feature space, active mining of data streams, and semi-supervised learning in data streams.

Big clinical data analytics and Artificial Intelligence: Big healthcare data analytics, clinical decision support using AI, deep learning, stream mining and other big data mining techniques.

Cyber Security: malware and intrusion detection; network security solutions with data mining.

Online Profiles

Google Scholar: (<https://scholar.google.com/citations?user=HBK9pbsAAAAJ&hl=en>)

As of 22 Feb 2022, total citations = 2800+; h-index = 26

DBLP: (http://dblp.uni-trier.de/pers/hd/m/Masud: Mohammad_M)

Scopus: (<http://www.scopus.com/authid/detail.uri?authorId=14037743900>)

As of 22 Feb 2022, total citations = 1400+; h-index = 20

Books

1. Mehedy Masud, Latifur Khan, Bhavani Thuraisingham. "Data Mining Tools for Malware Detection". CRC Press (2011). ISBN 978-1439854549 (CRC PRESS: <https://www.crcpress.com/Data-Mining-Tools-for-Malware-Detection/Masud-Khan-Thuraisingham/9781439854549>). Also available in Amazon.

2. Bhavani Thuraisingham, Mehedy Masud, Pallavi Parveen, Latifur Khan, "Big Data Analytics with Applications in Insider Threat Detection". CRC Press (2017). ISBN 9781498705479 (<https://www.crcpress.com/Big-Data-Analytics-with-Applications-in-Insider-Threat-Detection/Thuraisingham-Parveen-Masud-Khan/p/book/9781498705479>). Also available in Amazon.

Patent

Mohammad Mehedy Masud, Latifur Rahman Khan, Bhavani Marianne Thuraisingham, Qing Chen, Jing Gao, Jiawei Han. "Systems and Methods for Detecting a Novel Data Class". US Patent number 9,165,051, Approved – Sep 2015.

Research Grants

[G10] (External grant, Zayed University Research Cluster Award), **Co-PI**, Blockchain-Based Collaborative Intrusion Detection Systems and Trust Management for Industrial IoT. Amount AED 491,000, duration 3 years, awarded December 2020. (running)

[G9] (UAEU internal collaboration grant) **PI**, Application of Artificial Intelligence in Data Quality Management and Clinical Decision Support in the Mutaba'ah: Mother and Child Health Study Amount AED 3,200,000 (3.2 M), duration 4 years, awarded October 2019. (running)

[G8] (External grant, overseas funding agency) **Co-PI**, "Smart emergency warning system for cardiovascular patients". ICT Innovation grant by Bangladesh Government. Amount BDT 1,700,000, Awarded Mar 2019. (running)

[G7] (External grant, UAE Dept. of Education and Knowledge (ADEK) Research Excellence Award) **PI**, “Continuous anywhere monitoring and emergency medical warning system”, amount 200,000 AED, Award date: December 2017 (completed).

[G6] (UAEU external research collaboration grant) **PI**, Awarded grant covers visit to a collaborator at a top 100 ranked University. Amount 25,000 AED, Awarded May 2018. (completed)

[G5] (UAEU Space Center Grant) **PI**, “Educational app development for raising awareness in space science”. Amount 70,000 AED, Award date: September 2017 (completed).

[G4] (UAEU Startup Grant) **Co-PI**, “Privacy protection of biomedical data in the cloud”. UAEU startup grant, amount 395,000 AED, Award date: January 2014 (completed).

[G3] (UAEU Interdisciplinary Grant, externally evaluated) **PI**, “Building the Foundation of an Intelligent Healthcare Information System for UAE”. Amount 498,000 AED, Award date: January 2015 (completed).

[G2] (UAEU-NRF grant, externally evaluated) **PI**, “Biometrics based highly Secured Networks (Bio-Networks)”. Award amount AED 320,000, Award date: February 2013 (completed).

[G1] (External grant, funded by ICT funding agency, UAE) **Co-PI**, “Health Monitoring System”. Project was in collaboration with the College of Medicine and Health Sciences (CMHS) and several US Universities. Award amount AED 2,728,948, Award date: July 2014 (completed).

Total grant Awarded in running and completed projects ~ **AED 8,000,000 ~ \$US 2,170,000**

Articles in Refereed Journals

[J28] S. S. Das, S. K. Shanto, M. Rahman, MD. Saiful Islam, Atif Rahman, Mohammad M. Masud & Mohammed Eunos Ali. BayesBeat: Reliable Atrial Fibrillation Detection from Noisy Photoplethysmography Data. Accepted, ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) Journal.

[J27] Vaccine versus variants (3Vs): Are the COVID-19 vaccines effective against the variants? A systematic review Hayawi, K., Shahriar, S., Serhani, M.A., Alashwal, H., Masud, M.M. Vaccines, 2021, 9(11), 1305 (SJR 1.3, Q1)

[J26] Jawhar, I., Zhang, S., Wu, J., Mohamed, N., Masud, M.M. Distributed algorithms for multiple path backbone discovery in thick linear sensor networks. *Journal of Sensor and Actuator Networks*, 2021, 10(3), 49 (SJR 0.52, Q2)

[J25] Md Zahangir Alam, Mohammad M. Masud, M Saifur Rahman, Muhsin Cheratta, Muhammad Ali Nayeem, M Sohel Rahman. Feature-ranking-based ensemble classifiers for survivability prediction of intensive care unit patients using lab test data. *Informatics in medicine unlocked*, Dec 2020. *Informatics in Medicine Unlocked*, 2021, 22, 100495 (**SJR: 0.64**)

[J24] Mohammad M. Masud, Muhsin Cheratta, Kadhim Hayawi. Medication Recommendation for Critical Care Patients using Patient Similarity in Clinical Records. *International Journal of Bioscience, Biochemistry and Bioinformatics*, 10(1): 1-14 (2020)

[J23] Noura Al Nuaimi and Mohammad M Masud. Online Streaming Feature Grouping & Selection for Big Data Classification. *WIRES Data Mining and Knowledge Discovery* (2020), <https://doi.org/10.1002/widm.1364> (**ISI IF = 1.9**)

- [J22] Z. Trabelsi, S. Zeidan, K. Hayawi, and M. M. Masud. Thwarting ICMP Low-rate Attacks against Firewalls while Minimizing Legitimate Traffic Loss. *IEEE Access* (Jan 2020), *IEEE Access*, 2020, 8, pp. 78029–78043, 9064541. (**ISI IF = 4.0**)
- [J21] Noura Al Nuaimi, Mohammad M Masud, Nazar Zaki, Mohamed Serhani. Streaming Feature Selection Algorithms for Big Data: A Survey. *Applied Computing and Informatics* (2019). *Applied Computing and Informatics*, 2022, 18(1-2), pp. 113–135 (**SJR: 0.67, Q1**)
- [J20] Zouheir Trabelsi, Mohammed Al Matrooshi, Saeed Al Bairaqa, Walid Ibrahim, Mohammad M. Masud: Android based mobile apps for information security hands-on education. *Education and Information Technologies (EAIT) 22(1)*: 125-144 (2017) (**SJR: 0.403**)
- [J19] Zouheir Trabelsi, Safaa Zeidan, Mohammad M. Masud: Hybrid mechanism towards network packet early acceptance and rejection for unified threat management. *IET Information Security 11(2)*: 104-113 (2017) (**ISI IF: 1.037, SJR: 0.381**)
- [J18] Mohammad M. Masud, Mohamed Adel Serhani, Alramzana Nujum Navaz: Resource-Aware Mobile-Based Health Monitoring. *IEEE J. Biomedical and Health Informatics 21(2)*: 349-360 (2017) (**SJR: 2.864, ISI IF: 1.44**).
- [J17] Zouheir Trabelsi, Mohammad M. Masud: An extended identity-based cryptography protocol based on biometric. *IJPSI 2(3)*: 232-256 (2016)
- [J16] Tahseen Al-Khateeb, Mohammad M. Masud, Khaled Al-Naami, Sadi Evren Seker, Latifur Khan, Charu Aggarwal, Jiawei Han. Recurring and Novel Class Detection using Class-Based Ensemble for Evolving Data Stream. *IEEE Transactions on Knowledge and Data Engineering*. 28(10): 2752-2764 (2016). (**SJR: 3.023, ISI IF: 2.067**)
- [J15] Zouheir Trabelsi, Mohammed Al Matrooshi, Saeed Al Bairaqa, Walid Ibrahim and Mohammad M. Masud. Android based mobile apps for information security hands-on education. *Springer Education and Information Technologies*. Sep 2015, DOI 10.1007/s10639-015-9439-8. (**SJR: 0.409**)
- [J14] Eman AbuKhoua, Yacine Atif, Mohammad M. Masud. A Social Learning Analytics Approach to Cognitive Apprenticeship. *Smart Learning Environments 2015*, 2:14. doi:10.1186/s40561-015-0021-z.
- [J13] Noura AlNuaimi, Mohammad M Masud and Farhan Mohammed. Examining The Effect Of Feature Selection On Improving Patient Deterioration Prediction. *International Journal of Data Mining & Knowledge Management Process (IJDMP)*, Vol.5, No.6, Nov 2015.
- [J11] Zouheir Trabelsi, Safaa zeidan , Mohammad M. Masud , Kilani Ghoudi. Statistical dynamic splay tree filters towards multilevel firewall packet filtering enhancement. *Computers & Security. Volume 53, 109–131 (2015)*. (**SJR: 1.051, ISI IF: 1.931**).
- [J10] Zouheir Trabelsi, Mohamed Al Hemairy, Mohammad M. Masud. On Investigating the Effectiveness of Biometric Readers in Thwarting Network Attacks: A Secure Architecture Design Proposal. *Journal of Intelligent Systems 24 (2), 199-213 (2015)*. (**SJR: 0.158, h-index: 10**)
- [J9] Mohammad M. Masud, Q. Chen, L. Khan, C. C. Aggarwal, J. Gao, J. Han, A. Srivastava, N. C. Oza. Classification and Novel Class Detection of Feature-Evolving Data Streams. *IEEE Trans. on Knowledge and Data Engineering*, 25(7):1484-1497 (2013). (**SJR: 3.023, ISI IF: 1.815**)

- [J8] Bhavani M. Thuraisingham, Tahseen Al-Khateeb, Latifur Khan, Mehedy Masud, Kevin W. Hamlen, Vaibhav Khadilkar, Satyen Abrol: Design and Implementation of a Data Mining System for Malware Detection. *Journal of Integrated Design & Process Science* 16(2): 33-49 (2012). (SJR 0.123, h-index: 8).
- [J7] Mohammad M. Masud, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani M. Thuraisingham. Facing the reality of data stream classification: Coping with scarcity of labeled data. *Journal of Knowledge and Information Systems (KAIS)*, 33(1), pp. 213-244 (2012). (SJR: 2.812, ISI IF: 2.225,).
- [J6] Mohammad M. Masud, Tahseen M. Al-Khateeb, Kevin W. Hamlen, Jing Gao, Latifur Khan, and Jiawei Han. Cloud based Malware Detection for Evolving Data Streams. *ACM Transactions on Management Information Systems* 2(3), pp. 16 (2011). (SJR: 0.7, h-index: 10)
- [J5] Mohammad M. Masud, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani M. Thuraisingham. Classification and novel class detection in concept-drifting data streams under time constraints. *IEEE Transactions on Knowledge and Data Engg. (TKDE)* 23(6), pp. 859-874 (2011). (SJR: 2.455, ISI IF: 1.657)
- [J4] Mohammad Husain, James McGothlin, Mohammad M. Masud, Latifur Khan, and Bhavani Thuraisingham. Heuristics-based Query Processing for Large RDF Graphs Using Cloud Computing. *IEEE Transactions on Knowl. and Data Engg. (TKDE)* 23(9), pp. 1312-1327 (2011). (SJR: 2.455, ISI IF: 1.657).
- [J3] Kevin W. Hamlen, Vishwath Mohan, Mohammad M. Masud, Latifur Khan, and Bhavani M. Thuraisingham. Exploiting an antivirus interface. *Computer Standards and Interfaces* 31(6), pp. 1182-1189 (2009). (SJR: 0.744, ISI IF: 1.373).
- [J2] Mohammad M. Masud, Latifur Khan and Bhavani Thuraisingham. A Scalable Multi-level Feature Extraction Technique to Detect Malicious Executables. *Information System Frontiers* 10(1): 33-45, 2008. (SJR: 0.68, ISI IF: 0.7)
- [J1] Mohammad M. Masud, Latifur Khan and Bhavani Thuraisingham. Efficient Auto-Detection of Novel Email Worms using Feature based Techniques. *International Journal of Information Security and Privacy* 1(4):47-61, 2007. (SJR: 0.118, h-index: 4)

Submitted:

- Moomal Farhad, Azam Beg, Mohammad M. Masud. A Review of Deep Learning Techniques for the Analysis of Medical Diagnostic Videos. Submitted, Applied Computing and Informatics.

Refereed Conference Proceedings

- [C38] Mohammad M. Masud, Kadhim Hayawi, Sujith Samuel Mathew, Temesgen Michael and Mai ElBarachi. Smart Online Exam Proctoring Assist for Cheating Detection. In Proceedings of *International Conference on Advanced Data Mining and Applications (ADMA)*, 2021, Sydney, Australia. (Acceptance rate 24%, CORE ranking B).
- [C37] Moomal Farhad, Mohammad M. Masud, Azam Beg. Deep Learning based Cardiac Phase Detection using Echocardiography Imaging. In Proceedings of *International Conference on Advanced Data Mining and Applications (ADMA)*, 2021, Sydney, Australia. (Acceptance rate 24%, CORE ranking B).
- [C36] I Makhdoom, K Hayawi, M Kaosar, SS Mathew, M. M. Masud. Blockchain-based Secure CIDS Operation. 2021 5th Cyber Security in Networking Conference (CSNet), 103-106

- [C35] Moomal Farhad, Heba Ismail, Saad Harous, Mohammad M. Masud, Azam Beg. Analysis of Emotion Recognition from Cross-lingual Speech: Arabic, English, and Urdu. *In Proc. of the 2nd International Conf. on Computation, Automation and Knowl. Management (ICCAKM - 2021)*, Dubai, UAE, Jan 19-21, 2021.
- [C34] Mohammad M. Masud, Ahmed Dirir and Muhsin Cheratta. Effective Patient Similarity Computation for Clinical Decision Support using Time Series and Static Data. In proc. of the 13th *Australasian Conf. on Health Informatics and Knowledge Management (HIKM 2020)*, Melbourne, Australia, 4-6 February, 2020.
- [C33] Mohammad M. Masud and Muhsin Cheratta: A Framework for Utilizing Lab Test Results for Clinical Prediction of ICU Patients. *Health Informatics Workshop @ 32nd AAAI Conference on Artificial Intelligence (AAAI-18)*, Feb 2-7, 2018, New Orleans, USA
- [C32] Mohammad M. Masud, Muhsin Cheratta, Abdel Rahman Al Harahsheh: Survival Prediction of ICU Patients using Knowledge Intensive Data Grouping and Selection. In Proc. *2017 International Conference on Information and Communication Technology and Accessibility (ICTA 2017)*, Dec 19-21, Muscat, Oman.
- [C31] Ahsanul Haque, Bo Dong, Yifan Li, Yang Gao, Latifur Khan, and Mohammad Masud: Multistream Regression with Asynchronous Concept Drift Detection . In Proc., *IEEE Big Data 2017*: Boston, USA, Dec 11-14.
- [C30] Mohammad M. Masud, Abdel Rahman Al Harahsheh: Mortality prediction of ICU patients using lab test data by feature vector compaction & classification. In Proc., *IEEE BigData 2016*: Washington, DC, USA, Dec 5-8, pp 3404-3411
- [C29] Zouheir Trabelsi, Safaa Zeidan and Mohammad M. Masud. Network Packet Filtering and Deep Packet Inspection Hybrid Mechanism for IDS Early Packet Matching. *In Proceedings of the 30th IEEE International Conference on Advanced Information Networking and Applications (AINA-2016)*, Crans-Montana, Switzerland, March 23-25, 2016, 808-815. (**Acceptance rate: 30%, Class B Conference**^o).
- [C28] Noura AlNuaimi, Mohammad M. Masud and Farhan Mohammed. ICU Patient Deterioration prediction: a Data-Mining Approach. *Fourth Intl. Conf. on Data Mining and Knowledge Management Process, Dubai, UAE Nov 6-7, CoRR abs/1511.06910 (2015)*.
- [C27] Mohammad M. Masud, Ameera Al-Shehhi, Eiman Al-Shamsi, Shamma Al-Hassani, Asmaa Al-Hamoudi, Latifur Khan. Online Prediction of Chess Match Result. In PAKDD '15: Proceedings of The *19th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2015)*, pages 525-537, Ho-Chi-Minh City, Vietnam, 19-22 May 2015. (**Acceptance rate: 22%, Class A Conference**).
- [C26] Hind Al Falasi, Mohammad M. Masud, Nader Mohamed. Trusting the Same: Using Similarity to Establish Trust among Vehicles. In CTS '15: Proceedings of *2015 International Conf. on Collaboration Tech. and Systems (CTS 2015)*, pages 64-69, June 01-05, 2015, Atlanta, Georgia, USA. (Class C Conference).
- [C25] L. Ismail, Mohammad M. Masud, Latifur Khan. FSBD: A Framework for Scheduling of Big Data Mining in Cloud Computing. In Proceedings of *2014 IEEE International Congress on Big Data (Big Data Congress 2014)*, Anchorage, Alaska, July 2014, pp 514-521.
- [C24] Mohammad M. Masud, Zouheir Trabelsi, and Umniya Mustafa. A Data Driven FireWall for Faster Packet Filtering, In *COMNET '14: Proceedings of the fourth International Conference on Communications and Networking (COMNET 2014)*, Hammamet, Tunisia, March 19-22, 2014.

- [C23] Zouheir Trabelsi, Mohammed Al Hemairy, and Mohammad M. Masud. Resilience of Fingerprint and Iris Readers against Common Denial of Service Attacks, In WCCAIS '14: Proc. of the *World Congress On Comp. Applications and Information Systems (WCCAIS 2014)*, Hammamet, Tunisia, January 17-19, 2014.
- [C22] Umniya Mustafa, Mohammad M. Masud, Zouheir Trabelsi, Timothy Wood and Zainab Al Harthi. Firewall Performance Optimization using Data Mining Techniques, In IWCMC '13: Proc. of The *9th Intl Wireless Comm. and Mobile Computing Conf. (IWCMC 2013)*, Sardinia, Italy, July 1-5, pp 934-940, 2013. **(Class B Conference)**.
- [C21] Tahseen Al-Khateeb, Mohammad M. Masud, Latifur Khan, Charu C. Aggarwal, Jiawei Han, Bhavani M. Thuraisingham. Detecting Recurring and Novel Classes in Concept-Drifting Data Streams, In ICDM '12: *Proceedings of the IEEE International Conference on Data Mining (IEEE ICDM 2012)*, pp. 31-40, Brussels, Belgium, Dec 2012. **(Acceptance rate: 19.9%, Class A* Conference)**.
- [C20] Tahseen Al-Khateeb, Mohammad M. Masud, Latifur Khan, Bhavani M. Thuraisingham, Cloud Guided Stream Classification Using Class-Based Ensemble. In CLOUD '12: *Proc. of the 5th Intl. Conf. on Cloud Computing (IEEE CLOUD 2012)*, pp. 694-701, Hawaii, USA, June 2012. **(Class B conference)**
- [C19] Mohammad M. Masud, Tahseen Al-Khateeb, Latifur Khan, Charu C. Aggarwal, Jing Gao, Jiawei Han, Bhavani M. Thuraisingham. Detecting Recurring and Novel Classes in Concept-Drifting Data Streams. In ICDM '11: *Proceedings of the IEEE International Conf. on Data Mining (ICDM 2011)*, pp. 1176-1181, Vancouver, Canada, Dec 2011. **(Acceptance rate: 18%, Class A* Conference)**.
- [C18] Altaher, A., Ramadass, S., Thuraisingham, B., Mehedy, M. On-line anomaly detection based on relative entropy. In IC-BNMT' 11: *Proceedings of the 4th IEEE International Conference on Broadband Network and Multimedia Technology (IC-BNMT)*, pp. 33-36, Oct 26-28, 2011.
- [C17] Mohammad M. Masud, Qing Chen, Jing Gao, Latifur Khan, Charu Aggarwal, Jiawei Han, and Bhavani Thuraisingham. Addressing Concept-Evolution in Concept-Drifting Data Streams. In ICDM '10: *Proceedings of the IEEE International Conference on Data Mining (ICDM 2010)*, pages 929-934, Sydney, Australia, December 14-17, 2010. **(Acceptance rate: 19.4%, Class A* Conference)**.
- [C16] Mohammad M. Masud, Qing Chen, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani Thuraisingham. Classification and Novel Class Detection of Data Streams in A Dynamic Feature Space. In ECML PKDD '10: *Proceedings of the 2010 European Conference on Machine Learning and Principles and Practice in Knowledge Discovery in Databases (ECML/PKDD '10)*, vol 2, pages 337-352, Barcelona, Spain, Sep 20-24, 2010. **(Acceptance rate: 18.2%, Class A Conference)**.
- [C15] Mohammad M. Masud, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani M. Thuraisingham. Classification and Novel Class Detection in Data Streams with Active Mining. In PAKDD '10: *Proceedings of The 14th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2010)*, pages 311-324, Hyderabad, India, 21-24 June 2010. **(Acceptance rate: 23.3%, Class A Conference)**.
- [C14] Tahseen Al-Khateeb, Mohammad Salim Ahmed, Mohammad Masud and Latifur Khan. A Data Intensive Multi-chunk Ensemble Technique to Classify Stream Data Using Map-Reduce Framework. *Workshop on High Perf. Anal. – Algor., Impl., and Applications*. Columbus, Ohio, USA, May 1st, 2010.
- [C13] ClayWoolam, Mohammad M. Masud, and Latifur Khan. Lacking labels in the stream: Classifying evolving stream data with few labels. In ISMIS '09: *Proceedings of the 18th International Symposium on Methodologies for Intelligent Systems (ISMIS 2009)*, pages 552-562, Prague, Czech Rep., 14-17 Sep 2009.

- [C12] Mohammad M. Masud, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani M. Thuraisingham. Integrating novel class detection with classification for concept-drifting data streams. In *ECML PKDD '09: Proc. of the Euro. Conf. on ML and Principles and Practice in Knowl. Dis. in Databases (ECML/PKDD 2009)*, vol 2, pages 79-94, Bled, Slovenia, 7-11 Sep 2009. (**Acceptance rate: 24.9%, Class A Conference**)
- [C11] Mohammad M. Masud, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani M. Thuraisingham. A multi-partition multi-chunk ensemble technique to classify concept-drifting data streams. In *PAKDD '09: Proceedings of the 13th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2009)*, pages 363-375, Bangkok, Thailand, 27-30 Apr 2009. (**Acceptance rate: 21.3%, Class A Conference**).
- [C10] Mohammad M. Masud, Latifur Khan, Bhavani M. Thuraisingham, Xinran Wang, Peng Liu, and Sencun Zhu. Detecting remote exploits using data mining. In Sujeet Shenoj Indrajit Ray, ed., *IFIP Intl. Federation for Info. Processing*, vol 285; *Advances in Digital Forensics IV*, pp 177-189, 2008.
- [C9] Mohammad M. Masud, Jing Gao, Latifur Khan, Jiawei Han, Bhavani Thuraisingham. Peer to peer botnet detection for cyber-security: a data mining approach. In *CSIIRW '08: Proc. of the 4th annual workshop on Cyber security and info. intelligence research (CSIIRW): developing strategies to meet the cyber security and info. intelligence challenges ahead*. Art. No. 39. Oak Ridge, TN, USA, May 12-14, 2008.
- [C8] Bhavani M. Thuraisingham, Latifur Khan, Mohammad M. Masud, Kevin W. Hamlen. Data Mining for Security Applications. In *EUC '08: Proceedings of the Intl. Conference On Embedded and Ubiquitous Computing (EUC 2008)*, vol 2, pages 585-589, Shanghai, China, 17-20 Dec 2008. (Class C Conference).
- [C7] Mohammad M. Masud, Jing Gao, Latifur Khan, Jiawei Han, and Bhavani M. Thuraisingham. A practical approach to classify evolving data streams: Training with limited amount of labeled data. In *ICDM '08: Proceedings of the 2008 International Conference on Data Mining (ICDM 2008)*, pages 929-934, Pisa, Italy, 15-19 Dec 2008. (**Acceptance rate: 19.9%, Class A* Conference**)
- [C6] Mohammad M. Masud, Tahseen Al-khateeb, Latifur Khan, Bhavani M. Thuraisingham, and Kevin W. Hamlen. Flow-based identification of botnet traffic by mining multiple log files. In *DFMA '08: Proceedings of the 2008 International Conference on Distributed Frameworks and Multimedia Applications (DFMA 2008)*, pages 200-206, Penang, Malaysia, 21-22 October 2008. (Class C conference).
- [C5] Mohammad M. Masud, Latifur Khan, and Bhavani M. Thuraisingham. Feature based techniques for auto-detection of novel email worms. In *PAKDD '07: Proceedings of the 11th Pacific-Asia Conf. on Knowl. Discovery and Data Mining (PAKDD 2007)*, pages 205-216, Nanjing, China, 22-25 May 2007. (Acceptance rate: 17.7%, Class A Conference).
- [C4] Mohammad M. Masud, Latifur Khan, and Bhavani M. Thuraisingham. A hybrid model to detect malicious executables. In *ICC '07: Proceedings of the 2007 IEEE International Conference on Communications (ICC 2007)*, pages 1443-1448, Glasgow, Scotland, 24-28 June 2007. (Class B Conference)
- [C3] Mohammad M. Masud, Latifur Khan, and Ehab Al-Shaer. Email worm detection using naive bayes and support vector machine. In *ISI '06: Proceedings of the 2006 IEEE Intelligence and Security Informatics Conference (ISI 2006)*, pages 733-734, San Diego, California, 23-24 May 2006. (Class C Conference)
- [C2] Mohammad M Masud. Combined Evolution Model: Integrating Machine Learning, Simulated Annealing and Evolutionary Computing. In *RASC'04: Proceedings of the 5th International Conf. on Recent Advances in Soft Computing (RASC 2004)*, Nottingham, U.K, pp. 428-435, 16-18 December, 2004.

[C1] Mohammad M. Masud, Md. Monirul Islam & K. Murase. Empirical Study on Learnable Evolution Model for P-Median and Capacitated P-Median Problems. In HART '04: Proceedings of the 4th International Symposium on Human and Artificial Intelligence Systems (HART 2004): From Control to Autonomy, Fukui, Japan, pp. 265-270, 5-6 December, 2004.

¶Note: conference ratings are obtained from following sources

1) CORE (<http://portal.core.edu.au/conf-ranks/>)

2) Google scholar rankings: (https://scholar.google.ac/citations?view_op=top_venues&hl=en&vq=eng) (following the link and choosing the sub-discipline “Data mining and analysis”, the top 20 journals and conferences can be seen)

Public Presentations

Conference presentations (oral)

- M. M. Masud: *Smart Online Exam Proctoring Assist for Cheating Detection*. In Proceedings of International Conference on Advanced Data Mining and Applications (ADMA), 2021, Sydney, Australia. (2-4 February, 2022).
- M. M. Masud: *Effective Patient Similarity Computation for Clinical Decision Support using Time Series and Static Data*. Presented at the ACM 13th Australasian Conference on Health Informatics and Knowledge Management (HIKM 2020), Melbourne, Australia, 4-6 February, 2020.
- M. M. Masud: *A Framework for Utilizing Lab Test Results for Clinical Prediction of ICU Patients*. *Health Informatics Workshop @ 32nd AAAI Conference on Artificial Intelligence (AAAI-18)*, Feb 2-7, 2018, New Orleans, USA
- M. M. Masud, *Survival Prediction of ICU Patients using Knowledge Intensive Data Grouping and Selection*. 2017 International Conference on Information and Communication Technology and Accessibility (ICTA 2017), Dec 19-21, Muscat, Oman.
- M. M. Masud, *Mortality prediction of ICU patients using lab test data by feature vector compaction & classification*. Presented at *IEEE BigData 2016*: Washington, DC, USA, Dec 5-8.
- M. M. Masud, *IDS Performance Enhancement with Intelligent Predictive Packet Inspection*. Presented at the 7th International Multi-Conference on Complexity, Informatics and Cybernetics (IMCIC 2016), March 8-11, Orlando, Florida.
- M. M. Masud, *Online Prediction of Chess Match Result*. The 19th Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2015), Ho-Chi-Minh City, Vietnam, 19-22 May 2015.
- M. M. Masud, *Data Stream Mining for Malware Detection and Network Security*, Workshop on Emerging Data Center and Cloud Computing Technologies, Al Ain, UAE, Dec 2013.
- M. M. Masud, *Detecting Recurring and Novel Classes in Concept-Drifting Data Streams*. IEEE International Conference on Data Mining (IEEE ICDM 2012), Brussels, Belgium, Dec 2012.
- M. M. Masud, *Detecting Recurring and Novel Classes in Concept-Drifting Data Streams*. IEEE International Conference on Data Mining (ICDM 2011), Vancouver, Canada, Dec 2011.
- M. M. Masud, *Peer to Peer Botnet Detection for Cyber-Security: A Data Mining Approach*. Cyber Security and Information Intelligence Research Workshop (CSIIRW), Oak Ridge National Laboratory, May 2008.

Conference presentations (poster)

- M. M. Masud, *A Cloud-based Framework for Smart Predictive Packet Inspection of Intrusion Detection Systems*. Poster at the 13th USENIX Symposium on Networked Systems Design and Implementation (NSDI '16), Santa Clara, CA, USA, March 16-18, 2016.
- M. M. Masud, *MineClass: A Synergy of Data Stream Classification and Novel Class Detection*. Doctoral Student Forum, SIAM International Conference on Data Mining (SDM), Sparks, NV, May 2009.
- M. M. Masud, *Novel Class Detection in Concept-Drifting Data Streams in a Shared Environment*. Multidisciplinary University Research Initiative (MURI) meeting, University of Maryland Baltimore County, Sep 2009.
- M. M. Masud, *A Knowledge-based Approach to detect new Malicious Executables*. Second Secure Knowledge Management Workshop (SKM06), Brooklyn, NY, USA, Sep 2006.

Invited Talks

- M. M. Masud, *Big Data Analytics for Smart Cities*. Workshop for UAEU, Nov 2018
- M. M. Masud, *Big Data Analytics for Intelligent Healthcare*. The 1st Dubai Data Science Workshop, Canadian University of Dubai, UAE, April 2018
- M. M. Masud, *Big Data Analytics and its Potentials for Oil and Gas Industry*. The 2nd Data and Information Management in Oil and Gas Conference, Abu Dhabi, UAE, Sep 2015
- M. M. Masud, *Active Defense with Data Mining*. Information Sciences Institute (ISI), Los Angeles, CA, USA, Jan 2011.
- M. M. Masud, *Data Stream Mining for Cyber Security*. Society for Design Process Science (SDPS) Conference, Dallas, TX, Jun 2010.
- M. M. Masud, *Malware Detection using Data Mining*. Secure World Expo, Dallas, TX, USA, Nov 2009

Keynote Speeches

- M M Masud, *Clinical Decision Support from Unstructured and Temporal Data*. Workshop on Health 4.0: AI-Enabled, and Patient-Centric Predictive Precision Medicine, Expo 2020, Dubai, Feb 10-11, 2022.
- M M Masud, *Challenges, Tools, and Applications of Data Stream Mining*. 14th International Conference on Computer and Information Technology (ICCIT 2011), Dhaka, Bangladesh, Dec 2011.
- M. M. Masud, *Big Data Management and Analytics*. Workshop on Advances in Data Management (WADM), Dhaka, Bangladesh, June 2013

Tutorials

- L. Khan, W. Fan, J. Han, J. Gao and M. M. Masud, *Data Stream Mining: Challenges and Techniques*. Pacific-Asia Conf. on Knowl. Discovery and Data Mining (PAKDD '11), Shenzhen, China, May 2011.
- M. M. Masud, *Data Mining for Security Applications*. IEEE Conference on Intelligence and Security Informatics (ISI), Dallas, TX, Jun, 2009.

SERVICES AND PROFESSIONAL ACTIVITIES

Professional Membership

1. Member of IEEE (2010-Present)
2. Member of ACM (2010-Present)

Editorial Membership

- Lead Guest Editor, Special issue on “Big Data Science in Internet of Things”. Journal of Computer Networks and Communications, 2017.
- Lead Guest Editor, Special issue on “Mining Big Data in Social Networks and Healthcare”. Journal of Electrical and Computer Engineering, 2016

Conference Organization

- Program Co-chair, International Conference on Innovations in IT (IIT), Al Ain, UAE, Nov 2018.
- Program Co-chair, IEEE International Conference on Info. Reuse and Integration (IRI), Salt Lake City, Utah, USA, Jul 2018
- Industry track Co-chair, IEEE International Conference on Info. Reuse and Integration (IRI), 2017
- Chair, publication committee, Intl. Conference on Innovations in IT (IIT), Al Ain, UAE, Nov 2016.
- Member, Steering committee, 2nd Workshop on Smart and Connected Health, Al Ain, UAE, Feb 2016.
- Member, Organizing committee, Student Poster Track, International Conference on Innovations in IT (IIT) – Apr 2014.
- *Technical Program Committee Member:*
 - IEEE Global Engineering Education Conference (EDUCON) - 2021
 - ACM SIGKDD Conference on Knowledge Discovery and Data Mining – 2021, 2022
 - SIAM International Conference on Data Mining (SDM) – 2020, 2021, 2022
 - IEEE International Conference on BigData – 2018, 2020
 - International Conference on Computer Science and Information Technology - 2018
 - Workshop on AI for Aging, Rehabilitation and Independent Assisted Living (ARIAL) @ IJCAI- 2018
 - Workshop on AI for Aging, Rehabilitation and Independent Assisted Living (ARIAL) @ ICDM- 2017
 - IEEE Conf. on Connected Health: Applications, Syst. and Engg. Tech. (CHASE) – 2017, 2016
 - Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) – 2016
 - International Conference on Innovations in IT (IIT) – 2015, 2016, 2018, 2020
 - IEEE Intelligence and Security Informatics Conference (ISI) – 2013
 - ACM International Conference on Information and Knowledge Management – 2013 (CIKM '13)
 - ACM International Conference on Information and Knowledge Management – 2012 (CIKM '12)
 - International Symposium on Pervasive Systems, Algorithms and Network (ISPAN)- 2012
 - World Wide Web (WWW) Poster Track - 2011
 - ACM SIGKDD Workshop on Novel Data Stream Pattern Mining Techniques (StreamKDD '10) - 2010. (<https://lyle.smu.edu/IDA/StreamKDD2010/index.html#organizers>)

Selected Manuscript Reviewing (Invited / external)

Conferences

ACM Intl. Conf. on Knowledge Discovery and Data Mining (SIGKDD) – 2021, 2011, 2010, 2009
International Conf. on Advances in Satellite and Space Communications (SPACOMM) - 2019
International Conference on Innovations in IT (IIT) –2018, 2016, 2015, 2014, 2013, 2012
IEEE Intelligent Systems – 2018
International Conference on Signal Processing and Information Security (ICSPIS) – 2018
International Conference on Computational Science (ICCS) - 2017
IEEE Wireless in Space and Extreme Environment (WiSEE) - 2017
ACM International Conf. on Information and Knowledge Management (CIKM) – 2013, 2012
International Symposium on Pervasive Systems – 2012 (ISPAN '12)
Euro. Conf. on ML and Pr. and Prac. in Knowl. Disc. in Data. - 2011 (ECML/PKDD '11)
International Conference on Data Mining (ICDM) – 2010, 2009
Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD) – 2010
ACM International Conf. on Advances in Geographic Information Systems (GIS)– 2010
IFIP WG 11.9 International Conference on Digital Forensics – 2009
Siam International Conference on Data Mining (SDM) - 2009, 2008
International Conference on Communications (ICC) – 2007
International Conference on Dependable Systems and Networks (DSN) – 2007

Journals

IEEE Access – 2021
IEEE Transactions on Big Data - 2021
Journal of Big Data Research - 2020
PLOS One - 2019
Elsevier Computers and Security (COSE) - 2018
IEEE Transactions on Information Forensics & Security (TIFS) – 2018
Data Science & Engineering (DSE) Journal – 2018
Artificial Intelligence in Medicine (AIM) – 2017
International Journal of Computer Information Systems and Industrial Management Applications – 2018
Informatics in medicine Unlocked (IMU) - 2018
IEEE Trans on Knowl. and Data Engg (TKDE) – 2018, 2017, 2015, 2014, 2013, 2012, 2011
IEEE Transactions on Database Systems (ToDS) – 2015
Journal of Innovation in Digital Ecosystems (JIDE), Elsevier – 2015
IEEE Trans. on Neural Net. and Learning Systems (TNNLS) – 2014, 2013, 2012, 2011
IEEE Transactions on Signal Processing (TSP) – 2014, 2013
Journal of Knowledge and Information Systems (KAIS) –2018, 2017, 2016, 2014, 2013, 2012
Data Mining and Knowledge Discovery Journal (DAMI) – 2018, 2017, 2014, 2013

IEEE Internet of Things (IOT) Journal – 2014
Journal of Intelligent Information Systems (JIIS) – 2014
Journal of Machine Vision and Applications (MVAP) – 2014
Journal of Security and Communication Networks (SCN) – 2014, 2012
ACM Transactions on Knowledge Discovery from Data (TKDD) – 2013
ACM Transactions on Management Information Systems (TMIS) – 2013
Journal of Electronic Commerce Research (ECR) – 2013
Journal of Artificial Intelligence (ARTINT), Elsevier – 2011
Information Systems Frontiers (ISF) Journal – 2011
Journal of Zhejiang University Science (JZUS) – 2011, 2010
IEEE Transactions on Dependable and Secure Computing (TDSC) – 2009

Funding proposal reviewer

Marsden Fund, New Zealand - 2018

Consultation Services

Served as a member of a team of consultants for developing “automated clearing and settlement system” software for Dhaka Stock Exchange (DSE), Dhaka, Bangladesh, 2004-2005.

- The system had been developed in Java / JSP programming language on the j2ee Struts (from Jakarta) framework using Oracle database.
- Consultancy was appointed by the Bureau of Research Testing and Consultancy, Bangladesh University of Engineering and Technology.

TEACHING, MENTORING, AND ADVISING

Courses taught and contributions

Taught the following courses and either completely developed the course or revised the content, as mentioned below.

Graduate Courses:

Current emerging trends in IT (ITCO601): (Content revision – 50%) This graduate course was revised by me by adding more relevant and contemporary topics, and modifying most of the other chapters with in-depth content. Also I developed project description, midterm and final exams. (Taught in Spring 2020).

Big data analytics for healthcare and security (ITBP797): (Complete development) I am offering this graduate course for Spring 2016. It is the first time the course is offered in UAEU. Developed the syllabus, teaching materials, homeworks, projects, and exams. (Taught in Spring 2016)

Software Security (SECB624): (Complete development) I Developed the syllabus (approved) for this course according to the ABET and WASC accreditation requirements. This graduate course was offered and taught by me for the first time at CIT. Developed (Fall 2015) from the scratch all the lecture materials, assessment instruments including the project description, quizzes, assignments, midterm, and final exams. (Taught in Fall 2015, Spring 2016, Fall 2016, Fall 2017, Spring 2018, Fall 2019, Spring 2021)

Sys. Anal. Modeling & Design (ITCO603): (Content revision – 50%) This graduate course was revised by me by adding more chapters and modifying most of the other chapters with in-depth content. Also I developed project description, midterm and final exams. (Taught in Spring 2015).

Undergraduate Courses:

Business Intelligence (ISBP440): (Complete development) I developed this course including all the lecture notes, project description, assignments, quizzes and exams. (Taught in Spring 2014).

Algorithms and Problem Solving (CSBP119): (Content revision – 20%). I have revised and restructured the materials to make it more suitable for beginners because it is an introductory Java programming course. (Taught in Fall 2020.)

Object Oriented Programming (ITBP219): (Content revision – 50%) I Significantly revised and revitalized all chapters and fully developed new lecture notes. Quizzes, midterm and final were made programming-intensive to develop strong programming skills in the students. I also introduced the “Term assignment” and “in-class assignments” to challenge students with hands on OOP intensive problems. (Taught each semester since Spring 2012 – Fall 2016).

Security Principles and Practices (ITBP301): (Content revision – 30%). I Revised lecture materials and assessment instruments (e.g. homework, project, exam, quiz). (Taught in Fall 2012 and Spring 2017).

Cryptographic Algorithms and Protocols (SECB310): (Content revision – 30%). I Revised lecture materials and assessment instruments. (Taught in Spring 2013).

Machine Learning (CSBP411): (Content revision – 25%). I Revised lecture materials and assessment instruments. (Taught in Fall 2013).

Data Structures (ITBP319): (Content revision – 25%). I Revised lecture materials and assessment instruments. (Taught in Fall 2014).

Business Integration Lab 2 (ISBP433): (Syllabus development) I Developed the syllabus including textbook, topical outlines, course outcomes to adapt the course with the state-of-the art and to conform to the ABET and WASC accreditation requirements.

Secure Software Design and Engineering (ISEC323): (Complete development) I Developed the syllabus (approved) for this course according to the ABET and WASC accreditation requirements. This course was offered and taught by me for the first time at CIT. Developed from the scratch all the lecture materials, assessment instruments including the project description, quizzes, assignments, midterm, and final exams. (Taught every semester from Fall 2016 – Fall 2019, and Spring 2021).

Network Security - I (ISEC311): (Content revision – 25%). I Revised lecture materials, created new hands on projects, and revised other assessment instruments. (Taught in Spring 2020, Fall 2020, Spring 2021).

Network Security - II (ISEC321): (Content revision – 25%). I Revised lecture materials, created new projects, and revised other assessment instruments. (Taught in Spring 2020, Fall 2020).

Coordinated and Coordinating the following courses: Business Intelligence (ISBP440), Business Integration Lab2 (ISBP433) and E-Commerce Security and Payment Protocols (ECBP413).

Laboratory and lab material development

Contributed to the development of lab content and project description document, deliverables, and project development guidelines for the following courses: Object Oriented Programming (ITBP219), Machine Learning (CSBP211), Cryptographic Algorithms and Protocols (SECB310), Security Principles and Practices (ITBP301), Business Intelligence (ISBP440), Secure Software Design and Development (ISEC323), Software Security (SECB624), and Sys. Anal. Modeling & Design (ITCO603).

Curriculum development

CIT reform proposal committee (2012-2013): The committee drafted proposal for four new bachelors program, namely, Information Security, Computer Engineering, Information Technology, and Computer Science and the course curriculum for each program.

Bachelor in Information Security Program's curriculum development (2014-2015) by developing syllabus (description, topics, textbook, outcome and mapping) for two undergraduate courses, namely, Secure Software Design and Engineering (ISEC323) and Database Security (ISEC417).

Member of College Curriculum Committee (2017-2018): The committee oversees undergraduate and graduate curriculums and conduct periodic evaluation and revision.

Member of Executive Committee of MS in Space Science Program (2018-2020): As a member of the interdisciplinary committee, developed the MS in Space Science program to be offered for the first time in UAEU. The program has been approved in December 2018, and is expected to be start the first batch from Spring 2021.

Graduate student supervision

Current:

Main supervisor:

- ❖ Ph.D. Supervisor of **Moomal Farhad**, CIT, UAEU
 - Since Spring 2020
 - Research focus: image and video analytics for healthcare
- ❖ Ph.D. Supervisor of **Tisa Selma**, CIT, UAEU
 - Since Fall 2021
 - Research focus: user quality experience in multimedia streaming
- ❖ MS Thesis Supervisor of **Shamma Al Jamali** , CoS, UAEU
 - Since Fall 2021. Expected graduation date – Fall 2022.
 - Research focus: Orbit Propagation and Determination algorithms for satellite ground stations (Project in collaboration with Space Center, UAEU).
- ❖ MS Thesis Supervisor of **Amira BinSumaida**, CIT, UAEU
 - Since Fall 2021. Expected graduation date – Fall 2022.
 - Research focus: Healthcare data analytics.

- ❖ MS Thesis Supervisor of **Aysha AlKalbani**, CIT, UAEU
 - Since Spring 2022. Expected graduation date – Spring 2023.
 - Research focus: Academic integrity monitoring in online exam setting.

Member of advisory committee:

- ❖ Member of Ph.D. advisory committee of **Alramzana Navaz**, CIT, UAEU
 - Since Spring 2020
 - Research focus: Cloud service quality enhancement
- ❖ Member of Ph.D. advisory committee of **Henry Alexander Ignatious**, CIT, UAEU
 - Since Spring 2020
 - Research focus: Cloud service quality enhancement

Graduated

Main supervisor:

- ❖ Ph.D. Supervisor of **Noura Al Nuaimi**, CIT, UAEU
 - Since Spring 2014. Graduation date - Spring 2019.
 - Title: Streaming feature selection for big data.
- ❖ MS Thesis Supervisor of **Ahmad Alnajjar**, CIT, UAEU
 - Since Fall 2020. Graduation date – Summer 2021.
 - Research focus: deep learning based clinical time-series data classification.
- ❖ MS Thesis Supervisor of **Mohamed Saleh Al Maleki**, CIT, UAEU
 - Since Spring 2015. Graduation date - Spring 2016
 - Title: IDS performance enhancement with intelligent predictive deep packet inspection

Member of advisory committee:

- ❖ Member of Ph.D. advisory committee of **Eman Abu Khousa**, CIT, UAEU
 - Fall 2013 – Summer 2016
 - Graduated: June 2016
 - Research focus: Intelligent learning environment
- ❖ Member of Ph.D. advisory committee **Hind Al Falasi**, CIT, UAEU
 - Fall 2013 – Fall 2015
 - Graduated: Dec 2015
 - Research focus: Smart vehicle automation systems

Senior graduation project supervision

- ❖ *Mining Large-scale Twitter Data for Covid-19 Crisis Management*: A tool using machine learning and Visualization technique utilizing Twitter data. Fall 2020 – Spring 2021. Number of students: 4.
Awarded 3rd best senior project at CIT, UAEU, Spring 2021.

- ❖ *Patient similarity computation for precision medicine*: A machine learning based tool to find and visualize similar patients given EHR relevant data. Fall 2019-Spring 2020. Number of students: 4.
- ❖ *A smart gluco-predictor for glucose conscious*: A smartphone app for predicting blood sugar from meal picture. Spring 2019-Fall 2019. Number of students: 4
- ❖ *The mission app: An educational space technology app for school children*
Fall 2017-Spring 2018. Total students: 5
Awarded 2nd best senior project at CIT, UAEU, Spring 2018.
- ❖ *Continuous monitoring and emergency alarm system using wearable devices*
Fall 2017-Spring 2018. Total students: 5
- ❖ *Campus bus tracking application*
Terms: Fall 2014-Spring 2015, Number of students: 3
- ❖ *Prediction of chess match outcome from early moves*
Term: Spring 2014-Fall 2014, Number of students: 4
Awarded best senior project at CIT, UAEU, Fall 2014.

Awarded as one of the best three research posters in the 2015 Annual UAEU students' conference.
Accepted for presentation at the 3rd Undergraduate Students Research Conf., Abu Dhabi, May 2015
- ❖ *Forecasting world population using data mining*
Terms: Fall 2013-Spring 2014, Number of students: 3
- ❖ *Mining and analyzing social networks*
Terms: Spring 2013-Fall 2013, Number of students: 4

Student mentoring

- Mentor, CIT computer programming teams
 - Since 2013 I mentored at least four CIT computer programming teams (total 12 students).
 - Encouraged them to solve new problems, conducted lecture sessions, practice sessions, online contests and on-site contests.
 - One of the teams secured 5th position at the Gulf Programming Contest (GPC) 2015 and GPC 2014. Other two teams secured 8th and 9th positions at GPC 2015.
 - See news links here (GPC14 and GPC15) http://www.cit.uaeu.ac.ae/en/news/2014_news/gpc.shtml, http://www.cit.uaeu.ac.ae/en/news/2015_news/gulfprogrammingcontest2015.shtml)

Student Advising

Advised about 20 undergraduate students each semester at CIT, UAEU.

Internship Supervision

Supervised about 30 intern students since Fall 2015.

UNIVERSITY AND COMMUNITY SERVICES

Selected CIT Committees/Services

- Chair, Faculty search committee, AY 2016-2017, 2015-2016
- Chair, Best senior project selection committee, Spring 2019
- Chair, Department assessment committee AY 2021-2022, 2020-2021, 2019-2020,
- Chair, CIT Academic misconduct investigation committee, Fall 2020.
- Member, senior grad project CMT, AY 2018-2019, 2016-2017, 2015-2016, 2013-2014 & 2012-2013
- Member, College assessment committee, AY 2020-2021, 2019-2020
- Member, College curriculum committee, AY 2019-2020, 2018-2019
- Member, Faculty promotion committee, AY 2021-2022, 2020-2021, 2019-2020, 2016-2017
- Member, student recruitment committee, AY 2015-2016 & AY 2014-2015.
- Member, Faculty search committee, AY 2019-2018, 2017-2018, 2015-2016 & 2013-2014.
- Member, department search committee AY 2018-2019
- Member, Faculty evaluation committee, AY 2020-2021, 2014-2015.
- Member, college peer evaluation of teaching (PET) committee, AY 2017-2018, 2014-2015.
- Member, Faculty award committee, AY 2014-2015 & AY 2013-2014.

University level Committees/Services

- Chair, University PET sub-committee 2, AY 2021-2022.
- Member, University PET sub-committee 5, AY 2021-2022.
- Member, University PET sub-committee 9, AY 2021-2022.
- Chair, University PET sub-committee 20, AY 2020-2021.
- Member, University PET sub-committee 8, AY 2020-2021.
- Member, University Space Science and Technology Working Group, 2018-2019
The working groups is an interdisciplinary academic and research group to promote space science in collaboration with the National Space Science and Technology Center (NSSTC).
- Member, judging committee, chancellor innovation award, 2021-2022, 2020-2021, 2019-2020, 2018-2019, 2017-2018. Also served as the rapporteur of the same committee in 2020-2021, 2019-2020, and 2018-2019. Served as the rapporteur of the committee.
Fully reviewed 50+ applications for the award, graded and commented.
Discussed the reviews in committee meeting and discussed on the final grade of each application.
Ranked the applicants and recommended the winners.
- Member, Core Faculty of the MS in Space Science Program, AY 2021-2022, 2020-2021, 2019-2020, 2018-2019. Intensely worked together with six other core faculty members of the committee to develop and launch the MS in Space Science program

- Member, Scientific Committee Board of Big Data Analytics Center, AY 2021-2022, 2020-2021, 2019-2020. Served as the core faculty member that developed the center proposal. Conducted interview of 10+ candidates for three positions: senior data analyst, data engineer and senior developer, Oct-Nov 2020.

Other Selected UAEU Services

- Session Co-Chair, IIT-20 Conference, UAEU
- Program Co-Chair, IIT-18 Conference, UAEU
- Chair, Publication committee, IIT-16 Conference, UAEU
- Chair, IT Marathon, May, 2015, UAEU.
- Chair, IT4KIDS in IT Marathon, 2019, 2018, 2017 & 2014, UAEU.
- Problem setter and Judge, Univ. Prog. Contest (UPC)- 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012
- Judge, IT Showcase, IT Marathon 2013 & 2012, Faculty of IT, UAEU
- Organized the CIT tour of high school and freshmen students at the CIT Open Day, Apr 22nd, 2015.
- Presented to CIT students an orientation of Enterprise Systems track at the Track Orientation Program, CIT, UAEU, 22nd Oct 2014.
- Led a team of 20 students to the “Industry Walk” event held at UAEU, February 25th, 2013.
- Examiner of Senior Graduation Projects, College of IT, UAEU, Fall 2012, Spring 2013, Fall 2013, Spring 2014, Fall 2014, Spring 2015, Fall 2015, Spring 2016, Fall 2016, and Spring 2017.
- Conducted mock interview of 8 graduating students, College of IT, UAEU, January 8th, 2013.
- Contributed to the “college reform” report by writing parts of the “Proposal for Information Security program”, College of IT, UAEU, Dec 2012.

Other Selected Services outside UAEU

- Problem setter and Judge, Gulf Programming Contest (GPC ‘19), Sultan Qaboos University, Oman, March 30-April 1, 2019
- Problem setter and Judge, GPC ‘18, Zayed University, UAE, March 21-22, 2018
- Problem setter and Judge, GPC ‘17, Gulf University of Science & Tech, Kuwait, March 22-23, 2017
- Problem setter and Judge, GPC ‘16, Gulf University of Science & Tech, Kuwait, March 23-24, 2016
- Problem setter and Judge, GPC ‘15, American University of Dubai, UAE, March 25-26, 2015
- Problem setter and Judge, GPC ‘14, American University of Dubai, UAE, March 19–20, 2014.
- Problem setter and Judge, GPC ‘13, Khalifa University, Abu Dhabi, UAE, March 13–14, 2013.
- Problem setter and Judge, GPC ‘12, Khalifa University, Abu Dhabi, UAE, March 14-15, 2012.

Professional Development

- Attended in Faculty Workshop: “Deep Learning for Healthcare Image Analysis”, College of CIT, UAEU, Dec 11, 2019.
- Attended in Faculty Workshop: “Flipped teaching”, College of IT, UAEU, Jan 23rd, 2014.
- Participated in the Workshop: “Digital classroom with iPad”, College of IT, UAEU, Feb 21st, 2013.

- Participated in Faculty Workshop: “Conducting Effective Job Interviews”, College of Engineering, UAEU, Jan 16th, 2013.
- Attended a tutorial on smart board, College of IT, Sep 5th, 2012.

OTHER ACHIEVEMENTS

Awards in Programming Competitions:

As a coach (Faculty):

- Gulf programming competition (GPC), Mar 2014 – *5th place* (among 40+ teams from 6 Arab Gulf countries)
- Gulf prog. competition (GPC), Mar 2015 – *5th place* (among 40+ teams from 6 Arab Gulf countries)
- ACM-ICPC*, Asia Regional-Dhaka, October 2004 - *Champion* (among 70+ teams from different countries in the sub-continent and China)
- ACM-ICPC, World Finals-Shanghai, China, April 2005 – *29TH place* (among 90+ teams from many universities worldwide).

As a contestant (Undergrad student):

International Competitions

- ACM-ICPC*, Asia Regional-Dhaka, November 1998-*Champion* (among 40+ teams from Bangladesh, India, Sri Lanka, Pakistan, and Iran.). Advanced to the World Finals 1999.
- ACM-ICPC, **World Finals-Eindhoven**, the Netherlands, April 1999 - Honorable mention (Among 62 teams from universities all over the world).
- ACM-ICPC, Asia Regional-Dhaka, November 1999- *4th place*.
- ACM-ICPC, Asia Regional-Kanpur, India, December 2000- *2nd Runner up*.

National Competitions

- National Computer Programming Contest (NCPC) -Dhaka, August 1998- *4th place* (among 40+ teams).
 - Computer Jagat & JOBS USAID Contest-Dhaka, September 2000-*Champion* (among 50+ teams).
 - National Computer Programming Contest (NCPC) -Dhaka, October 2000-*5th place* (among 40+ teams).
- (*Association for Computing Machinery-International Collegiate Programming Contest)