Mohammad R. Alsulmi, Ph.D

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Education

Ph.D. in Computer Science (Machine Learning and Information Retrieval), College of Engineering, University of Delaware, DE, USA, Aug 2018 .
GPA 3.94/4.00
Research: Exploring IR Approaches for Clinical Decision Support and Biomedical Search Tasks
Advisor: Ben Carterette

MS. in Computer Science (Big Data and High Performance Computing), College of Engineering, University of Delaware, DE, USA, Dec 2014.
GPA 3.93/4.00
Research: Modeling MapReduce Workloads on Different Storage System Technologies at the Extreme scale
Advisor: Michela Taufer

BS. in Computer Science, College of Computer and Information Sciences, King Saud University, KSA, June 2011 (First Class Honor).
GPA 4.88/5.00

Affiliations and Employment

Full-time ICT Research and Innovation Adviser, Communication, Space, and Technology Commission (Nov 2022–Now).

Consultant and Acting Vice Dean, Deanship of Electronic Transactions and Communication (Apr 2021–Apr 2022)

Associate Professor, Department of Computer Science, King Saud University (Dec 2023–Now).

Assistant Professor, Department of Computer Science, King Saud University (Oct 2018–Nov 2023).

Lecturer, Department of Computer Science, King Saud University (Jan 2018–Oct 2018).

Graduate Researcher, Information Retrieval Lab, University of Delaware (Feb 2015–Jul 2018).

Graduate Researcher, Global Computing Lab, University of Delaware (Feb 2014–Sep 2014).

Teaching Assistant, King Saud University (Oct 2011–Jan 2018).

Trainee, Advanced Electronics Company (Jul 2010–Sep 2010).

Teaching

CSC562 Artificial Intelligence; CSC569 Selected Topics in Artificial Intelligence; CSC484 Information Retrieval; CSC212 Data Structures; CSC227 Operating Systems.

Research Interests

Machine Learning; Information Retrieval and Recommender Systems; Clinical Decision Support; Financial Analytics; Automated Stock Trading; Big Data Analysis; User Studies and Experimental Design; Text Mining and Analytics; High Performance Computing; Performance Analysis and Modeling.

Publications

Ali Alsahli and Mohammad Alsulmi. Automatic Detection of Sand Fouling Levels in Railway Tracks Using Supervised Machine Learning: A Case Study From Saudi Arabian Railway. Arabian Journal for Science and Engineering, vol 48, 2023. (ISI-Q2)

Mohammad Alsulmi and Reham Alshamarani. Framework for Tasks Suggestion on Web Search Based on Unsupervised Learning Techniques, Journal of King Saud University-CIS, vol 34, 2022. (ISI-Q1)

Mohammad Alsulmi. From Ranking Search Results to Managing Investment Portfolios: Exploring Rank-Based Approaches for Portfolio Stock Selection, Electronics, vol 11 (23), 2022. (ISI-Q3)

Ghadeer Althari and Mohammad Alsulmi. Exploring Transformer-Based Learning for Negation Detection in Biomedical Texts, IEEE Access, vol 10, 2022. (ISI-Q2)

Sofien Gannouni, Kais Belwafi, Mohammad Alsulmi et al. A Brain Controlled Command-Line Interface to Enhance the Accessibility of Severe Motor Disabled People to Personnel Computer. Brain Sciences, vol 12 (7), 2022. (ISI-Q3)

Mohammad Alsulmi and Nourah Al-shahrani. Machine Learning-Based Decision-Making for Stock Trading: Case Study for Automated Trading in Saudi Stock Exchange. Scientific Programming, vol 2022, 2022. (ISI-Q3)

Mohammad Alsulmi. Reducing Manual Effort to Label Stock Market Data by Applying a Metaheuristic Search: A Case Study from the Saudi Stock Market, IEEE Access, vol 9, 2021. (ISI-Q2)

Mohammad Alsulmi. Exploring information retrieval approaches for clinical decision support and biomedical search tasks. Doctoral Dissertation. University of Delaware, 2018.

Mohammad Alsulmi and Ben Carterette. Improving medical search tasks using learning to rank. In Proceedings of IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology (CIBCB). IEEE, 2018.

Mohammad Alsulmi, and Ben Carterette. Exploring ontology expansions for clinical case retrieval in precision medicine: UDEL at TREC 2017 PM track. In Proceedings of the Text Retrieval Conference (TREC). NIST, 2017.

Mohammad Alsulmi and Ben Carterette. Learning to rate clinical concepts using simulated clinician feedback. In Proceedings of the ACM International Conference on Intelligent User Interfaces (IUI). ACM, 2017.

Mohammad Alsulmi and Ben Carterette. Improving clinical case search using semantic based query reformulations. In Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM). IEEE, 2016.

Mohammad Alsulmi and Ben Carterette. Learning to predict the performance of clinical queries using an integrated approach. In Proceedings of the IEEE International Conference on Bioinformatics and Biomedicine (BIBM). IEEE, 2016.

Mohammad Alsulmi, and Ben Carterette. Examining semantic based query reformulations for clinical based retrieval: UDEL at TREC CDS 2016. In Proceedings of the Text Retrieval Conference (TREC). NIST, 2016.

Mohammad Alsulmi, Karankumar Sabhnani, and Ben Carterette. University of Delaware at TREC 2016 Tasks Track. In Proceedings of the Text Retrieval Conference (TREC). NIST, 2016.

Mohammad Alsulmi, Karankumar Sabhnani, and Ben Carterette. University of Delaware at TREC 2015. In Proceedings of the Text Retrieval Conference (TREC). NIST, 2015.

Travis Johnston, Mohammad Alsulmi, Pietro Cicotti, and Michela Taufer. Performance tuning of MapReduce jobs using surrogate-based Modeling. In Proceedings of the International Conference on Computational Science (ICCS). 2015.

Mohammad Alsulmi. Modeling MapReduce workloads on different storage and file system technologies at the exascale. Master's thesis report. University of Delaware. 2014.

Students Advised

Current Lab:

Zainab Alshingiti, MSc (May 2021 - Now).

Amjad Alkhlaf, MSc (Jab 2022 - Now).

Graduated:

Nourah Al-shahrani, MSc (Sept 2020 - Jan 2022).

Ghadeer Althari, MSc (Sept 2020 - Jan 2022).

Reham Alshamrani, MSc (Nov 2019 - Dec 2020).

Feras Daghestani, BSc (Jan 2022 - Dec 2022).

Abdulaziz AlIbrahim, BSc (Jan 2022 - Dec 2022).

AbdulMohsin Aledaili, BSc (Jan 2022 - Dec 2022).

Abdulmajid AdDamigh, BSc (Jan 2021 - Dec 2021).

Ibrahim Alarfaj, BSc (Jan 2021 - Dec 2021).

Meshari Almalki, BSc (Jan 2021 - Dec 2021).

Nasser Alkhurayji, BSc (Jan 2021 - Dec 2021).

Abdulaziz Aldhaheri, BSc (Jan 2020 - Dec 2020).

Abdulaziz Alsalem, BSc (Jan 2020 - Dec 2020).

Yasser Altamimi, BSc (Jan 2020 - Dec 2020).

Khalid Al Alshaikh, BSc (Jan 2020 - Dec 2020).

Technical Skills

Industry Knowledge:

Machine Learning; Algorithms; Research; Statistical Analysis; A/B Testing; Experimental Design; User Studies; Big Data; Data Mining; Parallel Processing; Super Computing; Software Engineering and Testing.

Tools and Technologies:
C; C++; C♯; Java, PHP; R; Matlab; MySQL; Oracle; Hadoop; Spark; BCI2000; MPI; OpenMP; Cuda; CIVL; PARSEC; Weka; RankLib; SVMRank; Lucene; Terrier IR; Indri.

Awards and Honors

Research and Education Fellowship, King Saud University, 2012–2018.

Student Travel Award, Office of Graduate Education, University of Delaware, 2018.

Student Travel Award, Saudi Arabian Cultural Mission of USA (SACM), 2016.

Student Travel Award, NSF through IEEE BIBM Conference, 2016.

Research Award, Saudi Arabian Cultural Mission of USA (SACM), 2015.

Outstanding Academic Level Award, Saudi Arabian Cultural Mission of USA (SACM), 2014.

Research Award, Saudi Arabian Cultural Mission of USA (SACM), 2014.

Outstanding English Learning Award, Saudi Arabian Cultural Mission of USA (SACM), 2012.

Graduating with First Class Honors, King Saud University, 2011.

Graduating with the Top of Class, Computer Science Department, King Saud University, 2011.

Dean's List for Undergraduate Studies, King Saud University, 2010.

Dean's List for Undergraduate Studies, King Saud University, 2009.

Top 10 List for Preparatory Year Program, King Saud University, 2008.

Top High School Graduates in Gassim Region, Ministry of Education, 2007.

Conference Participation

Attending, IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology, St.Louis, MO, USA, 2018.

Attending, Text Retrieval Conference, NIST, Gaithersburg, MD, USA, 2017.

Attending, IEEE International Conference on Bioinformatics and Biomedicine, Shenzen, China, 2016

Registration co-chair, ACM International Conference on the Theory of Information Retrieval, Newark, DE, USA, 2016.

Attending, Text Retrieval Conference, NIST, Gaithersburg, MD, USA, 2016.

Attending, Text Retrieval Conference, NIST, Gaithersburg, MD, USA, 2015.

More Information

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