



Centre for Research in Data Science, Semantics, & Scientometrics (CRDS³)



GROUP HEAD

This group is jointly headed by Prof. Dr. M. Abdul Qadir and Dr. M. Tanvir Afzal.

Prof. Dr. M. Abdul Qadir

Twenty five years of career of Prof. Dr. M. Abdul Qadir can be categorized into three main areas as industry, academia and management. He is currently actively involved in teaching / R&D and academic management. Dr. Qadir has been teaching and doing research in the development of simple and efficient algorithms to solve real-life problems by using soft computing. His current focus is on semantic web, multimedia semantics, Ontologies, distributed systems and bioinformatics as is clear from more than 80 research publications in international refereed proceedings and journals. Dr Qadir have been playing a leading role in the management of industry and academia and have produced significant results in achieving the goals of different R&D organizations. He is also a reviewer of many international journal publishing articles in the area of Computer Science. He has presented his scholarly work in many reputed conferences all over the world. Under his supervision, more than 40 students have successfully completed their research thesis at MS and PhD level and a number of research students are pursuing their research with him.



Dr. Muhammad Tanvir Afzal

Dr. Afzal received the PhD degree with high distinction in Computer Science from the Graz University of Technology, Austria, secured Gold medal in his M.Sc Computer Science from Quaid-i-Azam University, Islamabad, Pakistan. He has been associated with academia and industry at various levels for the last 15 years, and currently he is serving as Associate Professor in the Department of Computer Science at Capital University of Science and Technology, Islamabad. He is also serving as editor-in-chief for reputed impact factor journal known as: Journal of Universal Computer Science. Dr. Afzal authored more than 90 research papers in the field of Digital Libraries, Information retrieval and visualization, Semantics, and Scientometrics including two books. His ISI impact factor is 40+. With citations over 300. He played pivotal role in making collaborations between MAJU-JUCS, MAJU-IICM, and TUG-UNIMAS. He served as PhD symposium chair, session chair, finance chair, committee member, and editor of several IEEE, ACM, Springer, Elsevier international conferences and journals. Dr. Afzal conducted more than 100 curricular, co-curricular, and extra-curricular activities in the last 5 years including seminars, workshops, national competitions (ExclTeCup) and invited international and national speakers from Google, Oracle, IICM, IFIS, SEGA Europe etc. Under his supervision, more than 50 post grad students (MS and PhD) have defended their research theses successfully and a number of PhD and MS students are pursuing their research with him.



RESEARCH AREAS

- Semantic Web
- Data Science
- Scientometrics
- Information Visualization
- Information Retrieval
- Ontologies

R&D Projects

1. Dynamic bandwidth aggregation in heterogeneous wireless networks for Mission Critical Applications, ICT R&D Funded project (2013)
2. High-Quality Tele-Medicine Driven Video Encoding System Under Very-Low Bitrates, ICT R&D Funded project (2017)

ALUMNI

The group has produced 10 PhDs and 75 MS theses. Due to space limitation, only the PhD titles are listed below:

Dr. Sher Afgun Khan: Thesis Title: OWL2 benchmarking for the evaluation of the knowledge based system's platforms, Year: 2018.

Dr. Najmul Ikram: Thesis Title: Investigating Protein Semantic Similarity Measurement And its Co-relation with sequence similarity, Year: 2018.

Dr. Riaz Ahmad: Thesis Title: Ranking similar papers based upon section wise co-citation occurrences, Year: 2018.

Dr. Raja Habib Ullah: Thesis Title: Research paper recommendation using citation proximity analysis in bibliographic coupling, Year: 2018.

Dr. Naseer Ahmed Sajid: Thesis Title: Multi-label classification of computer science research papers using papers' metadata, Year: 2018.

Dr. Samiullah Khan: Thesis Title: Adaptive simultaneous multi-path transmission scheme, Year: 2017.

Dr. Munir Ahmad: Thesis Title: Optimization of Semantic Cache Query Processing System, Year: 2017.

Dr. Abdul Shahid: Thesis Title: Recommending relevant papers using in-text citation frequencies and patterns, Year: 2016.

Dr. Muhammad Imran: Thesis Title: Evaluation of hidden markov model for malware behavioral classifications, Year: 2016.

Dr. Syed Zubair Ahmed: Thesis Title: QOS optimization through capacity aggregation of multiple links in heterogeneous wireless networks, Year: 2011.

Current PhD Students

1. Mr. Imran Ehsan
2. Mr. Touseef Ikraam
3. Mr. Faisal Kiyani
4. Mr. Shahbaz Ahmed
5. Ms. Raabia Asif
6. Mr. Sajjad Haider
7. Ms. Hummaira Waqas
8. Mr. Raja Muhammad Waqas Ahmed
9. Mr. Jaffar Hussain
10. Mr. Muhammad Saboor Ahmed

Selected Publications

Journal Publications

- F. Qayyum, M. T. Afzal, "Identification of Important Citations by Exploiting Research Articles: Metadata and Cue-Terms from Content", *Scientometrics*, 2018. (IF: 2.147)
- R. Ahmad, M. T. Afzal, "CAD: an algorithm for citation-anchors detection in research papers", *Scientometrics*, vol. 117 no. 3, pp. 1405-1423, 2018. (IF: 2.147).
- N. Ikram, M. A. Qadir, M. T. Afzal, "Investigating Correlation between Protein Sequence Similarity and Semantic Similarity Using Gene Ontology Annotations", *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, vol. 15, no. 3, pp. 905-912, 2017. (IF: 1.955)
- N. Noureen, H. M. Zohaib, M. A. Qadir, S. Fazal, "ChromBiSim: Interactive chromatin biclustering using a simple approach", *Genomics*, vol. 109 no. 5-6, pp. 353-361, 2017. (IF: 2.910)
- M. Imran, M. T. Afzal, M. A. Qadir, "Malware classification using dynamic features and hidden Markov model", *Journal of Intelligent and Fuzzy Systems (JIFS)*, vol. 31, no. 2, pp. 837-847, 2016. (IF: 1.812)
- U. Farooq, A. Nongailard, Y. Ouzrout, M. A. Qadir, "A multi source product reputation model", *Computers in Industry*, vol. 83, pp. 55-67, 2016. (IF: 1.685)

Conference Proceedings

- Z. Hassan, M. A. Qadir, M. A. Islam, U. Shahzad, N. Akhter, "Modified MinG Algorithm to Find Top-K Shortest Paths from large RDF Graphs", *Semantic Web Evaluation Challenge*, 2016.
- R. Ahmad, M. T. Afzal, M. A. Qadir, "Information Extraction from PDF Sources Based on Rule based System Usig Integrated Formats", *Semantic Web Challenges: Third SemWebEval Challenge at ESWC* pp. 293-308, 2016 [Challenge Winner].
- U. Farooq, T. P. Dhamala, A. Nongailard, Y. Ouzrout, and M. A. Qadir, "A word sense disambiguation method for feature level sentiment analysis", *9th International Conference on Software, Knowledge, Information Management and Applications (SKIMA)*, pp. 178, IEEE, 2015.
- Q. Mahmood, M. A. Qadir, M. T. Afzal, "Finding Relatedness between Research Papers Using Similarity and Dissimilarity Scores", *15th international Conference Web-Age Information Management (WAIM)*, vol. 8485, pp. 707-710, 2014.
- A. Latif, M. T. Afzal, D. Helic, K. Tochtermann, H. Maurer, "Discovery and Construction of Authors' Profile from Linked Data (A case study for Open Digital Journal)", *LDOW at World Wide Web conference*, 2010.

