

Academic Resume



Farrukh Nadeem

Professor, Information Systems Department

A passionate educator, developer and a researcher; eager to transfer knowledge to develop professional human resources. Prof. Farrukh Nadeem received his Ph.D. Computer Science (with distinction) from the University of Innsbruck, Austria in May 2009. At present, he is serving as a Professor at department of Information Systems, College of Computing and IT, King Abdulaziz University, Jeddah, Saudi Arabia. His research areas include data science, Internet of Things, smart and healthcare.

Contact Information.

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Highest Degree.

2009, Ph.D. in Computer Science, Grid and Distributed Systems, University of Innsbruck, Austria.

Academic and Professional Experiences.

1. **2017 - Present**
Associate Professor, Jeddah, Saudi Arabia, Department of Computer Information Systems, Faculty of Computing and Information Technology, King Abdulaziz University.
2. **2014 - 2016**
Assistant Professor, Jeddah, Saudi Arabia, Department of Computer Information Systems, Faculty of Computing and Information Technology, King Abdulaziz University.
3. **2009 - 2014**
Assistant Professor, Lahore, Pakistan, National University of Computer and Emerging Sciences.

Research Interests.

Data Science, Machine Learning, Intelligent and Smart Systems, Smart Healthcare, Internet of Things (IoT).

Teaching Interests.

Research Methods, Database Management Systems, Computer Networks, Quantitative Analysis, Data Science.

Certifications and Trainings.

1. Professional training by EMC (Riyadh) on Cloud computing infrastructure development, Train the trainer series. Aug. 31-Sep. 4, 2014, at EMC head office, Riyadh, Saudi Arabia..
2. Training workshop on High Performance Computing (March 23-27, 2013) organized by Inspur Corporation Limited at King Abdulaziz University, Jeddah, Saudi Arabia..

Social, Scientific and Professional Affiliation.

1. 2011-2012, ACM Professional Member, ACM.

Last Profile Update: January 15, 2024

Excellence Awards and Patents.

1. 2015, Interior, President (King Abdulaziz University) Certificate of appreciation and cash award for publication in Future Generation Computer Systems Journal.

Funded Projects.

1. 2013, Modeling and Predicting Resource availability in dynamic and heterogeneous distributed environments using Data Mining Methods., King Abdulaziz University
2. 2013, A Framework for Comparison of Cloud Computing Services, King Abdulaziz University
3. 2012, Performance Characterization and Modeling of Scientific Workflows in Large Scale Distributed Computing Environments like Grid, King Abdullah City for Science and Technology (KACST)

Publications.

1. Norah Alsaeed, Farrukh Nadeem, Faisal Albalwy, "A Scalable And Lightweight Group Authentication Framework For Internet Of Medical Things Using Integrated Blockchain And Fog Computing", *Future Generation Computer Systems*, vol: 151, pp. 162-181, 2024.
DOI: [10.1016/j.future.2023.09.032](https://doi.org/10.1016/j.future.2023.09.032)
2. Eman Alharbi, Asma Cherif, Farrukh Nadeem, "Adaptive Smart Ehealth Framework For Personalized Asthma Attack Prediction And Safe Route Recommendation", *Smart Cities*, vol: 6, pp. 2910-2931, 2023.
DOI: [10.3390/smartcities6050130](https://doi.org/10.3390/smartcities6050130)
3. Eman Alharbi, Asma Cherif, Farrukh Nadeem, Tariq Mirza, "Machine Learning Models For Early Prediction Of Asthma Attacks Based On Bio-Signals And Environmental Triggers", 2022 Ieee/Acs 19th International Conference On Computer Systems And Applications (Aiccsa), pp. 1-7, 2022.
DOI: [10.1109/AICCSA56895.2022.10017305](https://doi.org/10.1109/AICCSA56895.2022.10017305)
4. Norah Alsaeed, Farrukh Nadeem, "Authentication In The Internet Of Medical Things: Taxonomy, Review, And Open Issues", *Applied Sciences*, vol: 12, pp. 7487, 2022.
DOI: [10.3390/app12157487](https://doi.org/10.3390/app12157487)
5. Farrukh Nadeem, "Evaluating And Ranking Cloud Iaas, Paas And Saas Models Based On Functional And Non-Functional Key Performance Indicators", *Ieee Access*, vol: 10, pp. 63245-63257, 2022.
DOI: [10.1109/ACCESS.2022.3182688](https://doi.org/10.1109/ACCESS.2022.3182688)
6. Farrukh Nadeem, "Evaluating And Ranking Cloud Iaas, Paas And Saas Models Based On Functional And Non-Functional Key Performance Indicators", *Ieee Access*, 2022.
7. Norah Alsaeed, Farrukh Nadeem, "A Framework For Blockchain And Fogging-Based Efficient Authentication In Internet Of Things", 2022 2nd International Conference On Computing And Information Technology (Iccit), pp. 409-417, 2022.
DOI: [10.1109/ICCIT52419.2022.9711603](https://doi.org/10.1109/ICCIT52419.2022.9711603)
8. Salha Al-Ahmari, Farrukh Nadeem, "Machine Learning-Based Predictive Model For Surgical Site Infections: A Framework", 2021 National Computing Colleges Conference (Nccc), pp. 1-6, 2021.
DOI: [10.1109/NCCC49330.2021.9428873](https://doi.org/10.1109/NCCC49330.2021.9428873)
9. Alanoud Alotaibi, Farrukh Nadeem, "A Review Of Applications Of Linear Programming To Optimize Agricultural Solutions", *International Journal Of Information Engineering And Electronic Business*, vol: 13, pp. 11-21, 2021.
DOI: [10.5815/ijieeb.2021.02.02](https://doi.org/10.5815/ijieeb.2021.02.02)
10. Eman T. Alharbi, Farrukh Nadeem, Asma Cherif, "Predictive Models For Personalized Asthma Attacks Based On Patient'S Biosignals And Environmental Factors: A Systematic Review", *Bmc Medical Informatics And Decision Making*, vol: 21, 2021.
DOI: [10.1186/s12911-021-01704-6](https://doi.org/10.1186/s12911-021-01704-6)
11. Eman Alharbi, Farrukh Nadeem, Asma Cherif, "Smart Healthcare Framework For Asthma Attack Prediction And Prevention", 2021 National Computing Colleges Conference (Nccc), pp. 1-6, 2021.
DOI: [10.1109/NCCC49330.2021.9428842](https://doi.org/10.1109/NCCC49330.2021.9428842)
12. Farrukh Nadeem, "A Unified Framework For User-Preferred Multi-Level Ranking Of Cloud Computing Services Based On Usability And Quality Of Service Evaluation", *Ieee Access*, vol: 8, pp. 180054-180066, 2020.
DOI: [10.1109/ACCESS.2020.3027775](https://doi.org/10.1109/ACCESS.2020.3027775)
13. Farrukh Nadeem, "Using Radial Basis Function Neural Network To Predict Dynamic Resource Availability In Heterogeneous Distributed Environments", *Journal Of Intelligent & Fuzzy Systems*, pp. 1-14, 2019.
DOI: [10.3233/JIFS-190749](https://doi.org/10.3233/JIFS-190749)

Publications.

14. Farrukh Nadeem, Daniyal Alghazzawi, Abdulfattah Mashat, Khalid Fageeh, Abdullah Almalaise, "Using Machine Learning Ensemble Methods To Predict Execution Time Of E-Science Workflows In Heterogeneous Distributed Systems", Ieee Access, vol: 7, pp. 25138-25149, 2019.
DOI: [10.1109/ACCESS.2019.2899985](https://doi.org/10.1109/ACCESS.2019.2899985)
15. Sultan Abdullah Algarni, Mohammad Rafi Ikbal, Roobaea Alroobaea, Ahmed S Ghiduk, Farrukh Nadeem, "Performance Evaluation Of Xen, Kvm, And Proxmox Hypervisors", International Journal Of Open Source Software And Processes, vol: 9, pp. 39-54, 2018.
DOI: [10.4018/IJOSSP.2018040103](https://doi.org/10.4018/IJOSSP.2018040103)
16. Mohammed Matuq Ashi, Muazzam Ahmed Siddiqui, Farrukh Nadeem, "Pre-Trained Word Embeddings For Arabic Aspect-Based Sentiment Analysis Of Airline Tweets", Proceedings Of The International Conference On Advanced Intelligent Systems And Informatics, Cairo, Egypt, 2018.
17. Osama Islam, Ahmed Alfakeeh, Farrukh Nadeem, "A Framework For Effective Big Data Analytics For Decision Support Systems", International Journal Of Computer Networks And Applications, vol: 4, pp. 1, 2017.
DOI: [10.22247/ijcna/2017/49227](https://doi.org/10.22247/ijcna/2017/49227)
18. Farrukh Nadeem, Daniyal Alghazzawi, Abdulfattah Mashat, Khalid Fakeeh, Abdullah Almalaise, Hani Hagra, "Modeling And Predicting Execution Time Of Scientific Workflows In The Grid Using Radial Basis Function Neural Network", Cluster Computing, vol: 20, pp. 2805-2819, 2017.
DOI: [10.1007/s10586-017-1018-x](https://doi.org/10.1007/s10586-017-1018-x)
19. Manal Abumelha, Awatef Hashbal, Farrukh Nadeem, Naif Aljohani, "Development Of Infection Control Surveillance System For Intensive Care Unit: Data Requirements And Guidelines", International Journal Of Intelligent Systems And Applications, vol: 8, pp. 19-26, 2016.
DOI: [10.5815/ijisa.2016.06.03](https://doi.org/10.5815/ijisa.2016.06.03)
20. Farrukh Nadeem, "A Taxonomy Of Data Management Models In Distributed And Grid Environments", International Journal Of Information Technology And Computer Science, vol: 8, pp. 19-32, 2016.
DOI: [10.5815/ijitcs.2016.03.03](https://doi.org/10.5815/ijitcs.2016.03.03)
21. Sahar S. Alqahtani, Sabah Alshahri, Ahoud I. Almaleh, Naif Aljohani, Farrukh Nadeem, "The Implementation Of Clinical Decision Support System: A Case Study In Saudi Arabia", International Journal Of Information Technology And Computer Science, vol: 8, pp. 23-30, 2016.
DOI: [10.5815/ijitcs.2016.08.03](https://doi.org/10.5815/ijitcs.2016.08.03)
22. Farrukh Nadeem, Rizwan Qaiser, "An Early Evaluation And Comparison Of Three Private Cloud Computing Software Platforms", Journal Of Computer Science And Technology, vol: 30, pp. 639-654, 2015.
DOI: [10.1007/s11390-015-1550-1](https://doi.org/10.1007/s11390-015-1550-1)
23. Farrukh Nadeem, "Ranking Grid-Sites Based On Their Reliability For Successfully Executing Jobs Of Given Durations", International Journal Of Computer Network And Information Security, vol: 7, pp. 9-15, 2015.
DOI: [10.5815/ijcnis.2015.05.02](https://doi.org/10.5815/ijcnis.2015.05.02)
24. Farrukh Nadeem, Salma Mahgoub, "Student-Centered Role-Based Case Study Model To Improve Learning In Decision Support Systems", International Journal Of Modern Education And Computer Science, vol: 6, pp. 16-22, 2014.
DOI: [10.5815/ijmecs.2014.10.03](https://doi.org/10.5815/ijmecs.2014.10.03)
25. Farrukh Nadeem, Fahringer, Thomas, "Optimizing Execution Time Predictions Of Scientific Workflow Applications In The Grid Through Evolutionary Programming", Future Generation Computer Systems, vol: 29, Issue 4, 2013.

Publications.

26. Salma Elhag, Farrukh Nadeem, "Interactive Case Based Learning In Teaching Decision Support Systems And Business Intelligence", In Proceedings Of International Conference Interaccion, Elche, Spain. Publisher Acm, New York, 2012.
27. Farrukh Nadeem, Thomas Fahringer, "Using Templates To Predict Execution Time Of Scientific Workflow Applications In The Grid", 2009 9th Ieee/Acm International Symposium On Cluster Computing And The Grid, pp. 316-323, 2009.
DOI: [10.1109/CCGRID.2009.77](https://doi.org/10.1109/CCGRID.2009.77)
28. Rubing Duan, Farrukh Nadeem, Jie Wang, Radu Prodan, Thomas Fahringer, "A Hybrid Intelligent Approach For Performance Modeling And Prediction Of Workflow Activities In Grids", In 9th International Symposium On Cluster Computing And The Grid. Ieee Computer Society, 2009.
29. Farrukh Nadeem, Thomas Fahringer, "Predicting The Execution Time Of Grid Workflow Applications Through Local Learning", In Proceedings Of Ieee/Acm International Conference On High Performance Computing, Networking, Storage And Analysis 2009 (Supercomputing 2009, Sc|09), (Isbn 978-1-60558-744-8), Portland, Oregon, Publisher Acm, New York, Ny, Usa. Ieee Computer Society, pp. 1-12, 2009.
30. Farrukh Nadeem, Radu Prodan, Thomas Fahringer, "Characterizing, Modeling And Predicting Dynamic Resource Availability In A Large Scale Multi-Purpose Grid", 2008 8th Ieee International Symposium On Cluster Computing And The Grid (Ccgrid), pp. 348-357, 2008.
DOI: [10.1109/CCGRID.2008.29](https://doi.org/10.1109/CCGRID.2008.29)
31. Farrukh Nadeem, Radu Prodan, Thomas Fahringer, Vincent Keller, "Resource Availability Comparison And Prediction For Resource Selection Risk Analysis In The Grid", In Proceedings Of Coregrid Symposium At Europar 2008, Las Palmas De Gran Canaria, Canary Island, Springer Verlag, 2008.
32. Radu Prodan, Farrukh Nadeem, Thomas Fahringer, "Benchmarking Grid Applications For Performance And Scalability Predictions", 2008.
33. Thomas Fahringer, Radu Prodan, Rubing Duan, Juergen Hofer, Farrukh Nadeem, Francesco Nerieri, Stefan Podlipnig, Jun Qin, Mumtaz Siddiqui, Hong-Linh Truong, Alex Villazon, Marek Wieczorek, "Askalon: A Development And Grid Computing Environment For Scientific Workflows, In Workflows For Escience, Scientific Workflows For Grids, Springer Verlag", 2008.
34. Farrukh Nadeem, Radu Prodan, Thomas Fahringer, "Optimizing Performance Of Automatic Training Phase For Application Performance Prediction In The Grid", In High Performance Computing And Communications Conference, vol: 4782, 2007.
35. Farrukh Nadeem, Muhammad Yousaf, Radu Prodan, Thomas Fahringer, "Soft Benchmarks-Based Application Performance Prediction Using A Minimum Training Set", 2006 Second Ieee International Conference On E-Science And Grid Computing (E-Science'06), pp. 71-71, 2006.
DOI: [10.1109/E-SCIENCE.2006.261155](https://doi.org/10.1109/E-SCIENCE.2006.261155)
36. Muhammad Ali, Michael Welzl, Awais Adnan, Farrukh Nadeem, "Using The Ns-2 Network Simulator For Evaluating Network On Chips (Noc)", 2006 International Conference On Emerging Technologies, pp. 506-512, 2006.
DOI: [10.1109/ICET.2006.335967](https://doi.org/10.1109/ICET.2006.335967)
37. Farrukh Nadeem, Muhammad Yousaf, Muhammad Ali, "Grid Performance Prediction: Requirements, Framework, And Models", 2006 International Conference On Emerging Technologies, pp. 695-702, 2006.
DOI: [10.1109/ICET.2006.335937](https://doi.org/10.1109/ICET.2006.335937)