USMAN AMJAD

Department of Computer Science and Information Technology,
NED University of Engineering & Technology Karachi.
Date of Birth: 25 January 1987
Phone No. 0311-4891924
Email: usmanamjad@neduet.edu.pk
Linkedin: https://www.linkedin.com/in/usmanamjad87

CAREER OBJECTIVE

To pursue excellence in the domains of Artificial Intelligence and Machine Learning, making significant contributions to the advancement of academia and research in these fields. By actively working towards the betterment of society, I aim to utilize my skills and knowledge to drive meaningful impact and foster innovation in AI and ML.

ACADEMIC INFORMATION	BRIEF DECSRIPTION
1) MS / PhD (Computer Science)	* Completed PhD. Computer Science in 2018 from **University of Karachi,** Thesis Title: Nature Inspired Computing Techniques in Economic and Financial Modeling.
2) BS (Computer Science)	* Completed BS Computer Science from **University of Karachi** in year 2008 with First Division.
3) Intermediate	* Completed FSc Pre-Engineering from **Army Public College Malir Cantt, Karachi** in the year 2004 with First Division.
4) Matriculation	* Completed Matriculation from **PAF Inter College Malir Cantt, Karachi** in the year 2002 with First Division.

RESEARCH INTERESTS

- Exploring various applications of Machine Learning Algorithms and applying Deep Learning for producing useful results in different domains especially in finance and health sciences datasets.
- Using Deep Learning for computer vision especially in domains of medical image analysis.

HONORS / AWARDS

- SRSP – Sindh HEC Research Grant 2024 - 25
- HEC Indigenous PhD Fellowship Phase 2, Batch 2, 2013
- Young Scientist Study Tour 2018 (Scotland) organized by British Council and Higher Education Commission Pakistan (25 March – 01 April)

JOURNAL PUBLICATIONS

- Niaz, T. B., Amjad, U., & Azam, H. (2025). Alzheimer's Disease Detection Using Deep Learning and Federated Learning. Pakistan Journal of Engineering, Technology and Science (PJETS), 13(1). **(HEC Recognized Y Category)**

- Amjad, U., Farman, H., Jawed, L., Gangwani, P., & Ferozi, S. (2025). Exploring Fake Pandemic News Detection Using Artificial Intelligence Techniques. Journal of Independent Studies and Research Computing, 23(1). **(HEC Recognized Y Category)**

- Raza, A., Amjad, U., Zaki, M. A., & Farman, H. (2025). Deep Learning Approach for the classification and detection of Dental and craniofacial conditions. Bulletin of the South Ural State University. Series "Mathematical Modelling, Programming and Computer Software," 18(2). https://doi.org/10.14529/mmp250207 **(MJL-ESCI)**

- Amjad, U., Raza, A., Fahad, M., Akhunzada, A., & Abubakar, M. (2025). Context aware machine learning techniques for brain tumor classification and detection – A Review. Heliyon. **JCR IF=3.4 (MJL-SCIE)**

- Zaki, M. A., Zai, S., Amjad, U., Zaki, U., & Narejo, S. (2025). COMPACT CONVOLUTIONAL NEURAL NETWORK ARCHITECTURE FOR ONION DISEASE CLASSIFICATION USING CROP IMAGES. Advances and Applications in Discrete Mathematics, 42(3), 253-271. DOI: https://doi.org/10.17654/0974165825017 **(MJL-ESCI)**

- Qureshi, N. U., Amjad, U., Hassan, S., & Saleem, K. (2024). Systematic review of prediction of cancer driver genes with the application of Graph Neural Networks. International Journal of Advanced Computer Science and Applications, 15(12). https://doi.org/10.14569/ijacsa.2024.0151220 **(MJL-ESCI)**

- Farman, H., Talpur, S. R., Amjad, U., Shankar, G., Umm e Laila, & Naseem, L. (2024). Leveraging machine learning and deep learning models for proactive churn customer retention. VFAST Transactions on Software Engineering, 12(4), 70–86. https://doi.org/10.21015/vtse.v12i4.1928. **(HEC Recognized Y Category)**

- Farman Ali Baig, H., Khan, D., Amjad, U., Baig, S., Sheikh, T., & Memon, S. (2024b). Exploring fish species classification using Deep Learning. Pakistan Journal of Engineering, Technology and Science, 12(2), 76–92. https://doi.org/10.22555/pjets.v12i2.1120**. (HEC Recognized Y Category)**

- A Akhtar, I Zafar, MA Zaki, U Amjad, M Khurram, "Machine Learning-based fixed access Network Interface Congestion Prediction", Pakistan Journal of Engineering, Technology & Science, (2024). **(HEC Recognized Y Category)**

- M Abubakr, U Amjad, A Raza, M Khurram, H Farman, "COVID-19 diagnosis using Transfer Learning on Xray Images", Pakistan Journal of Engineering, Technology & Science, (2023). **(HEC Recognized Y Category)**

- Raza A., Amjad U., Abubakr M, Abbasi A, Azam H., Ali A, "Multiclass Light Weight Brain Tumor Classification and Detection Using Machine Learning Model Yolo 5." UMT Artificial Intelligence Review, Issue 2, Volume 2 (2022). **(HEC Recognized Y Category)**

- Hani U, Khan K, Amjad U, Zaman Jhanjhi N, Latif A, Zia S. 2022. A benchmarking program to support software process improvement adaptation in a developing country, a Pakistan case. PeerJ Computer Science 8:e936 https://doi.org/10.7717/peerj-cs.936 , **JCR IF=1.39 (MJL- SCIE)**

- Hassan, S., Khanesar, M. A., Hussein, N. K., Belhaouari, S. B., Amjad, U., & Mashwani, W. K. (n.d.). Optimization of Interval Type-2 Fuzzy Logic system using Grasshopper Optimization Algorithm for Electricity Load and Price Forecasting. Computers, Materials & Continua, 71(2), Article in Press, **JCR IF=3.772 (MJL- SCIE)**

- Humera Tariq, Humera Bashir, Usman Amjad: INVERSE COORDINATE TRANSFORMATION AND QUOTIDIAN USE CASES. International Journal of Scientific & Technology Research

- Abdul Muqeet, Humera Tariq, Usman Amjad, Asia Samreen: Analysis Of Hazy Images Based On K-Means Ground Truth And Quick Shift Segmentation. International Journal of Scientific & Technology Research 05/2019; 8(4):199.

- S.M.Aqil Burney, Tahseen Ahmed Jilani, Humera Tariq, Usman Amjad, Syed Shah Muhammad: A Portfolio Optimization Algorithm Using Fuzzy Granularity Based Clustering. BRAIN – Broad Research in Artificial Intelligence and Neuroscience Volume 10, Issue 2 (April, 2019), ISSN 2067-3957. **(MJL- ESCI)**

- Humera Tariq, Syed Faraz Naqvi, Asia Samreen, Usman Amjad: GEOMETRIC ANALYSIS OF TIBIOFEMORAL KNEE JOINT: TOWARDS COMPUTER AIDED TREATMENT (CAT) PLANNING. DOI:10.14456/ITJEMAST.2019.41 **(MJL- ESCI)**

- Humera Tariq, Asia Samreen, Usman Amjad: HAZE REMOVAL USING IMPROVED AUTOMATIC QUICK SHIFT SEGMENTATION, Applications in Discrete Mathematics, DOI:10.17654/DM020020295 **(MJL- ESCI)**

- Saad Sheikh, Mohsin Ali, Usman Amjad, Ahsan Ali, Humera Tariq: Domain Specific Content Based Image Retrieval (CBIR) for Feminine Textile Designs. IJCSNS International Journal of Computer Science and Network Security, VOL.19 No.2, February 2019 **(MJL- ESCI)**

- Humera Tariq, Tahseen Jilani, Usman Amjad, S M Aqil Burney: Novel Seed Selection and Conceptual Region Growing Framework for Medical Image Segmentation. BRAIN – Broad Research in Artificial Intelligence and

Neuroscience, Volume 10, Issue 1 (January - February, 2019), ISSN 2067-3957 **(MJL-ESCI)**

- Ayesha Shafiq, Fareed Alvi, Humera Tariq, Usman Amjad: Voice Recognition System Design Aspects for Robotic Car Control. IJCSNS International Journal of Computer Science and Network Security, VOL.19 No.1, January 2019 **(MJL-ESCI)**

- Humera Tariq, Tahseen Jilani, Usman Amjad, Ebad Ali, Syed Faraz Naqvi: Recurrence Relation for Projectile Simulation Project and Game based Learning. International Journal of Advanced Computer Science and Applications 12/2018; 9(12):70., DOI:10.14569/IJACSA.2018.091270 **(MJL- ESCI)**

- Usman Amjad, Tahseen Ahmed, Humera Tariq, Amir Hussain: A Quantum based Evolutionary Algorithm for Stock Index and Bitcoin Price Forecasting. International Journal of Advanced Computer Science and Applications 01/2018; 9(9)., DOI:10.14569/IJACSA.2018.090917 **(MJL- ESCI)**

- Usman Amjad, Tahseen A. Jilani, Farah Yasmeen: A Two Phase Algorithm for Fuzzy Time Series Forecasting using Genetic Algorithm and Particle Swarm Optimization Techniques. International Journal of Computer Applications 10/2012; 55(16):34-40., DOI:10.5120/8842-3129

- S. M. Aqil Burney, Nadeem Mahmood, Kashif Rizwan, Usman Amjad: A Generic Approach for Team Selection in Multiplayer Games using Genetic Algorithm. International Journal of Computer Applications 02/2012; 40(17):11-17., DOI:10.5120/5071-7440.

- Jilani T. A., Burney S. M. A, U. Amjad, Tanveer A. Siddiqui: A Particle Swarm Intelligence Based Fuzzy Time Series Forecasting Model. International Journal of Computer Applications 01/2012; 38(10):47-52., DOI:10.5120/4742-6776

CONFERENCE PUBLICATIONS

- Tahseen Jilani, Usman Amjad and Nikos Mastorakis, "A Hybrid Genetic Algorithm and Particle Swarm Optimization based Fuzzy Times Series Model for TAIFEX and KSE-100 Forecasting", BICA'12 Proceedings of the 5th WSEAS congress on Applied Computing conference, and Proceedings of the 1st international conference on Biologically Inspired Computation, University of Algarve, Faro, Portugal, May 2-4, 2012, pp. 212 – 218

- Tahseen Jilani, Usman Amjad, Jafreezal Jaafar and Saima Hassan, "An Improved Heuristic-Based Fuzzy Time Series Forecasting Model Using Genetic Algorithm", International Conference on Computer and Information Sciences, Universiti Teknologi PETRONAS, Malaysia, June 2012

TEACHING EXPERIENCE

1) **Associate Professor CSIT Department, NED University, Karachi (October 2025 – Till Date)**
   Teaching undergraduate and postgraduate level courses of computer science.
   Courses Taught: Artificial Intelligence & Expert System, Graphics Design, Advanced Analysis of Algorithms.
   Additional Responsibilities: Class Advisor BSCS, ORIC Coordinator CSIT, Internship Coordinator CSIT Department, Member FYDP Steering Committee

2) **Assistant Professor CSIT Department, NED University, Karachi (July 2022 – October 2025)**
   Teaching undergraduate and postgraduate level courses of computer science.
   Courses Taught: Design and Analysis of Algorithms, Data Structures and Algorithms, Object Oriented Programming, Discrete Structures, Advanced Analysis of Algorithms.
   Additional Responsibilities: Class Advisor BSCS, ORIC Coordinator CSIT, Internship Coordinator CSIT Department

3) **Assistant Professor COCIS, PAF KIET, Karachi (September 2021 – July 2022)**
   Teaching undergraduate courses and Research in Computer Science.
   Courses Taught: Data Structures and Algorithms, Object Oriented Programming, Discrete Structures.

4) **Assistant Professor Department of Computer Science, Sir Syed University of Engineering and Technology (November 2019 - April 2021)**
   Teaching undergraduate and postgraduate level courses of computer science.
   Courses Taught: Design and Analysis of Algorithms, Data Structures and Algorithms, Machine Learning, Advanced Analysis of Algorithms.

5) **Assistant Professor Department of Computer Science, Iqra University, Karachi (June 2019 – November 2019)**
   Teaching undergraduate and postgraduate level courses of computer science.
   Courses Taught: Data Structures and Algorithms, Object Oriented Programming, Discrete Structures.

6) **Visiting Teacher Department of Computer Science, University of Karachi (January 2018 – November 2018)**

   Teaching different courses at BS level including Artificial Intelligence, Machine Learning, Data Structures, Discrete Mathematics and Internet Programming Techniques.

7) **Teaching Assistant, Department of Computer Science, University of Karachi (January 2016 – December 2017)**

   Teaching undergraduate level courses and conducting labs of different subjects including Programming Languages, Data Structures, Discrete Mathematics, Operations Research and Artificial Intelligence

8) **Cooperative Teacher, Department of Computer Science, University of Karachi (March 2015 – Dec 2015)**

   Teaching and conducting labs for undergraduate level courses including Programming Languages, Data Structures, Discrete Mathematics, Operations Research and Artificial Intelligence.

9) **Lecturer (Computer Science), Federal Govt. Degree College for Boys (December 2012 – November 2014)**

   Teaching computer studies courses at intermediate and degree level and maintaining IT infrastructure at college.

10) **Visiting Teacher Department of Computer Science, University of Karachi (August 2011 – December 2012)**

    Teaching courses of Discrete Mathematics, Artificial Intelligence, Expert Systems, Data Mining, Statistics and Software Engineering in Dept. of Computer Science, University of Karachi.

PROFESSIONAL EXPERIENCE

1) **AI Solution Architect Datics.ai Solutions (December 2018 – May 2019)**
   Working on formulating and developing Artificial Intelligence based solutions. Planning and executing research and development activities for various international clients.

2) **Software Engineer Avanza Solutions (Pvt.) Ltd.**
   Worked in Avanza Solutions as Software Engineer C++ for development and maintenance of their e-banking products.

3) **Software Developer MicroSystems Ltd. (Feb 2009 – Feb 2011)**
   Worked in MicroSystems Ltd as software developer. Worked on .Net 2.0, C#, ADO.net, CSGL, Network (socket) Programming. Experience to work in client-server architecture, Hardware Programming for controlling electronic devices.

CERTIFICATE COURSES

- Enterprise RAG and Multi-Agent Applications (https://maven.com/certificate/FidCwYHy?ajs_uid=505893)
- Attended certificate course of Linux System Administration from **CTTC Pvt. Ltd.**
- Completed Online course (MOOC) on Artificial Intelligence from **Stanford University** with 84% score in exams.
- Completed Online course (MOOC) on Machine Learning from **Stanford University** with 100% score in exams.
- Completed Online course (MOOC) on Data Scientist's Toolbox from **Johns Hopkins University**.

REFERENCES

Available if required.