

Engr. Dua Agha

Software Engineer and academic professional specializing in AI and Machine Learning, with strong experience in both research and applied system development. Proven ability to design predictive models, develop data-driven solutions and translate theoretical concepts into practical implementations. Experienced in university-level teaching, alongside collaborative research and real-world AI deployment.

BASIC INFORMATION

Email Address	duaagha2@gmail.com
Google Scholar	https://scholar.google.com/citations?hl=en&user=W3QHvzcAAAAJ
LinkedIn	https://www.linkedin.com/in/dua-agma
ResearchGate	https://www.researchgate.net/profile/Dua-Agha
ORCID	https://orcid.org/0009-0003-1052-6962

WORK EXPERIENCE

Lecturer-Computer Science & Information Technology (CSIT), NED NED University of Engineering and Technology, Karachi (Onsite)	August 2025 – Present
<ul style="list-style-type: none">Teaching specialized courses in Artificial Intelligence & Expert Systems, and Programming Languages focusing on core concepts, practical implementations, and industry relevance.	
Lecturer-Software Department, MUET Mehran University of Engineering & Technology, Jamshoro (Onsite)	July 2024 – August 2025
<ul style="list-style-type: none">Conducted specialized courses in Software Quality Engineering, Software Economics & Management, Human-Computer Interaction, Agent-Based Intelligent Systems, Web Engineering, and Software Construction & Development, emphasizing both theoretical foundations and practical applications.Actively engaged in Data Mining and Machine Learning research, contributing to publications and advancing knowledge in these fields.	
Junior Front-end Developer & Graphic Designer Martmox Pty Ltd, Queensland, Australia (Remote)	Sept 2022 – July 2024
<ul style="list-style-type: none">Proficient in creating visually compelling banners and website designs using HTML, CSS, and Adobe Photoshop.Skilled in implementing responsive and brand-consistent designs for optimal user experience across devices.Demonstrated expertise in translating design concepts into pixel-perfect graphic design, ensuring consistency with brand guidelines and aesthetics.	
Web Development Intern Ghani Business Solutions, Hyderabad, Pakistan (Hybrid)	Jan 2021 – Mar 2021
<ul style="list-style-type: none">Developed web pages and components using HTML5, CSS3, & JavaScript.Worked alongside backend to troubleshoot JavaScript-related issues with front-end connectivity.Conceptualized, designed, & developed a comprehensive E-Library system.Successfully integrated backend systems to enable efficient data management & retrieval.	

EDUCATION

Master of Engineering (Software Engineering) Mehran University of Engineering and Technology, Jamshoro, Pakistan CGPA: 3.95 / 4.00	Feb 2022 – May 2024
Bachelor of Engineering (Software Engineering) Mehran University of Engineering and Technology, Jamshoro, Pakistan CGPA: 3.84 / 4.00	Oct 2017 – Nov 2021

PROJECTS

- **Student Performance Prediction (ML & EDM):** Developed and evaluated supervised and unsupervised learning models for structured educational datasets, focusing on predictive accuracy and model interpretability.
- **Cloud-Powered Mobile Battery Optimization:** Proposed system-level optimization using cloud offloading to enhance mobile device efficiency.
- **Smart Assistive System for the Visually Impaired:** Developed an object detection and voice-assisted navigation solution using computer vision techniques.

SKILLS

- Python - Pandas · Matplotlib · Numpy · Seaborn · Scikit-learn · TensorFlow.
- Front-End Development - HTML5 · CSS3 · JavaScript
- Graphic Design - Adobe Illustrator · Adobe Photoshop · Gimp · Canvas · Figma
- Microsoft Office - Word · Excel · PowerPoint
- Project Management, Responsive Design & Code Optimization

COURSES & CERTIFICATIONS

- Shortlisted In 5th Forum for Women in Research ([Certificate](#)).
- Learning Data Analytics ([Certificate](#))
- Google Data Analytics Professional Certificate (v2)
- Transfer Learning for NLP with TensorFlow Hub

RESEARCH & PUBLICATIONS

Journal Articles

- **Agha, D.**, Meghji, A. F., & Bhatti, S. (2023). Educational Data Mining in Outcome-Based Education: An Analysis of Predictive Models for Program Learning Outcome Attainment. *VAWKUM Transactions on Computer Sciences*, 11(2), 123–138.
- **Agha, D.**, Meghji, A. F., & Bhatti, S. (2023). Clusters of Success: Unpacking Academic Trends with K-Means Clustering in Education. *VFAST Transactions on Software Engineering*, 11(4), 15–31.
- **Agha, D.**, Sohail, R., Meghji, A. F., Qaboolio, R., & Bhatti, S. (2023). Test Driven Development and Its Impact on Program Design and Software Quality: A Systematic Literature Review. *VAWKUM Transactions on Computer Sciences*, 11(1), 268–280.
- **Agha, D.**, Kumari, V., & Meghji, A. F. (2024). Enhancing Mobile Efficiency: A Cloud-Powered Paradigm for Extended Battery Life and Enhanced Processing Capabilities. *International Journal of Innovations in Science & Technology*, 6(1), 58–69.
- Kumari, V., Meghji, A. F., Bhatti, S., & **Agha, D.** (2024). Analysing Temporal Variations and Public Sentiment on X: A Clustering Analysis of the 2024 Pakistan Elections. *Journal of Information Communication Technologies and Robotic Applications*, 15(1), 1–16.
- Muzaffar, A., Manahil, A., Dewani, A., Sami, M., Kumari, V., & **Agha, D.** (2025). An Augmented Reality Application for eLearning: Design of Stellar Escape Prototype for Immersive Space Exploration. *Sukkur IBA Journal of Emerging Technologies*, 8(1), 79–98.

Conference Papers

- Maheshwari, K. D., Kumar, P., Ali, N. I., Brohi, I. A., & **Agha, D.** (2024). Digital Forensics Across Multiple Android Versions Using the MOBILEdit Forensic Tool. *Proceedings of the 26th International Multi-Topic Conference (INMIC)*, Karachi, Pakistan.
- Sami, M., **Agha, D.**, Baloch, J., Dewani, A., & Maheshwari, K. D. (2024). Efficient Object Detection and Voice-Assisted Navigation for the Visually Impaired: The Smart Hat Approach. *Sukkur IBA Journal of Computing and Mathematical Sciences*, 8(2), 1–12.