ASAD KHAN

Lecturer, Computer Science | AI & Machine Learning | Web Technologies

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Professional Summary

Lecturer in Computer Science with an MS in Computer Science (AI & Machine Learning) and teaching experience across programming, web technologies, software engineering, human-computer interaction and artificial intelligence. Currently teaching at Bacha Khan University, Charsadda, where I supervise student projects in agentic AI, NLP/sentiment analysis and deep learning for medical imaging. Research focus on reinforcement learning for IoT security, with publications in peer-reviewed journals and conference proceedings.

Research Interests

Machine Learning & Deep Learning; Agentic AI & Generative AI; Reinforcement Learning; AI in Healthcare and Medical Imaging; IoT Security & Smart Systems; Remote Sensing & Image Processing; Sentiment Analysis / NLP

Education

MS Computer Science (AI & Machine Learning), 2021–2023 Institute of Management Sciences (IMSciences), Peshawar. CGPA: 3.45 / 4.0 Thesis: *Enhancing IoT Resilience and Security through Machine Learning* (Q-Learning for Wireless Sensor Networks; adaptive intrusion detection for IoT)

BS Computer Science, 2016 –2020 Bacha Khan University, Charsadda. CGPA: 3.74 / 4.0 (2nd Position) Final Year Project: Pharma Bee (web application)

Academic Experience

Lecturer, Department of Computer Science — Bacha Khan University, Charsadda (BKUC) 1 December 2025 – Present

Courses taught:

- Advanced Programming (Python)
- Human-Computer Interaction (HCI)
- Web Technologies (HTML, CSS, Bootstrap, Git/GitHub, PHP, MySQL)
- Introduction to Artificial Intelligence (current semester)

Student project supervision (5 project groups), including:

- Agentic AI-based property buying and selling system
- Automated news scraping from live streams and news channels, with sentiment analysis

Current student research supervision:

- Deep Learning for Intracranial Hemorrhage Detection on Non-Contrast CT

Also engaged in academic mentoring, curriculum support and research activities.

Lecturer, Computer Science — CECOS University, Peshawar 16 June 2025 – 30 November 2025

- Taught Software Engineering, AI, ML and Advanced Computing courses.
- Supervised student projects integrating web technologies and AI.

Manager, Center for Digital Governance and Agentic Innovation (CDGAI) — CECOS University, Peshawar 16 June 2025 – 30 November 2025

- Led agentic AI and web-based governance solutions.
- Developed sentiment analysis systems and dashboard-driven web applications for data-driven decision making.

Visiting Instructor, Web Development — Arfa Karim Technology Incubator (AKTI), Peshawar Campus August 2024 – August 2025

- Taught HTML, CSS, JavaScript, PHP, Laravel and Tailwind CSS.
- Supervised AI/ML and full-stack web projects including LMS automation, ERP modules and recommender systems.

Lecturer, Computer Science — Amal College of Science, Peshawar September 2023 – March 2024

- Taught Programming, ICT and Software Engineering.

Publications

1. A. Khan, A. Ahmad, M. Mustafa, A. Saeed, S. Naseer. "Q-Learning-Based Trust-Aware Clustering and Adaptive Routing for Wireless Sensor Networks in the Internet of Things: A Simulation Study." *Bioscience Insights*, 3(3), 195–212, 2026.
2. S. U. Arifeen, M. F. Shah, Z. U. Rahman, M. N. Ullah, W. Ahmad, A. Khan, N. Jan, et al. "An Optimized Residual Convolutional Neural Network Framework for Early Diabetes Prediction Using Clinical Parameters." *Spectrum of Engineering Sciences*, 4(6), 3552–3563, 2026.
3. Asad Khan, Maryam Mahsal Khan, et al. "A Q-Learning Framework for Enhanced Energy Efficiency and Security in IoT Networks." 1st International Conference on Humanities, AI, Research, Management & Mathematics (ICHARMM 2025), CECOS University, 2025.

Professional Experience

Full Stack Developer (Laravel) — IMDigiSol (IMSciences Software House), April 2023 – February 2024

- Developed ERP systems, analytics dashboards and AI-enabled web modules; managed deployments and client coordination.

Software Engineer / IT Manager — Ruhsana Mother & Children Trust Hospital (RMCTH), October 2022 – January 2023

- Managed a Laravel-based Hospital Management System, IT infrastructure, web deployment and staff training.

Django Developer (Remote) — Precise Tech, February 2022 – August 2022

- Built AI-driven chatbots, recommender systems and Progressive Web Applications.

Freelance Developer, 2020–2021

- Built Pharma Bee (online pharmacy) and an artificial jewelry e-commerce platform.

Skills

- **Programming & Frameworks:** Python, C++, Java, PHP, HTML5, CSS3, JavaScript, Laravel, Django, Bootstrap, Tailwind CSS
- **AI / ML:** TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, LangChain, n8n; Deep Learning, Reinforcement Learning, Agentic AI, NLP / Sentiment Analysis
- **Software Engineering & Web:** REST APIs, MVC Architecture, ERP Systems, Dashboard Development, Progressive Web Apps, Git/GitHub
- **Databases & Platforms:** MySQL, SQLite, MongoDB, Linux, Windows
- **Professional:** Teaching & Mentorship, Research Writing, Technical Documentation, Project Management

Languages

English (Advanced), Urdu (Fluent), Pashto (Fluent)