

Muhammad Ahmad Mobeen

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About me

Computer Science graduate with a BS in Computer Science and professional experience as a Software Engineer specializing in full-stack development, software engineering, and application security. Proficient in React.js, Next.js, Node.js, TypeScript, and MongoDB, with additional experience in AI-related technologies, including Large Language Models (LLMs), Natural Language Processing (NLP), and machine learning model training. Experienced in developing REST APIs, software testing, CI/CD workflows, and immersive virtual reality applications. Recognized for academic and technical achievements, including fifth place in the Final Year Project Competition and awards in national-level computing and programming competitions. Seeking to advance my knowledge and research skills through a Master's degree in Computer Science, with particular interests in Artificial Intelligence, Data Science, and Cybersecurity.

Education & Training

Bachelor of Science in Computer Science | Institute of Space Technology, Islamabad, Pakistan (KICSIT Kahuta Campus) | 22/02/2022 - 11/02/2026 | Islamabad, Pakistan

Final grade: CGPA 3.44 / 4.00 | **Number of credits:** 136 (121 - 15) | **Thesis:** LAPSSIM: VR Simulator for Laparoscopic Appendectomy

Work experience

Junior Software Engineer | TECFOLK (SMC) PVT LTD | 07/05/2026 - Current | Islamabad, Pakistan

- Develop and maintain full-stack applications using Next.js, React.js, Node.js, TypeScript, and MongoDB, integrating frontend interfaces, backend services, and databases.
- Enhance application security, conduct software testing and quality assurance, debug issues, and optimize performance and reliability.
- Explore AI-driven solutions using Large Language Models (LLMs), Natural Language Processing (NLP), and machine learning model training.
- Develop REST APIs and streamline application deployment through Git, GitHub Actions, and CI/CD workflows.

Computer Science Instructor / Web Developer | Friend's Vision Academy | 20/01/2024 - 31/01/2026 | Kahuta, Pakistan

- Delivered practical training in web development, programming, computer science fundamentals, and Microsoft Office.
- Designed lessons, guided hands-on exercises, and mentored students in applying programming concepts and IT skills.

Research Experience

Trustworthy AI for Cybersecurity: A Systematic Literature Review of Explainability, Robustness, and Privacy

Research Project | *Ongoing*

- Reviewing 95 studies to identify challenges and research gaps in explainability, robustness, and privacy in AI-driven cybersecurity.
- Examining approaches for developing reliable and trustworthy AI-based security systems.

Federated Learning for IoT Intrusion Detection

Research Project | *Ongoing*

- Developing a lightweight federated learning approach using FedAvg for intrusion detection in resource-constrained IoT environments.
- Investigating model explainability using SHAP and challenges associated with non-IID client data.

Honours and Awards

AI Startup Idea Competition | National Incubation Center | 01/06/2025

- 7th in Nationwide

ExcITeCup 2025 | Capital University of Science & Technology, Islamabad, Pakistan | 17/05/2025

- 3rd in Computing Quiz Competition

RWU Rising Pakistan | Rawalpindi Women University, Rawalpindi, Pakistan | 09/05/2023

- Runner-up in Speed Programming

Language Skills

Mother tongue(s): **Urdu** | **Punjabi**

	Understanding		Speaking		Writing
	Listening	Reading	Spoken production	Spoken interaction	
English	B2	B2	B2	B2	B2

Internship & Projects

Virtual Reality Developer (Technology Incubation Center, Islamabad, Pakistan) | 14/07/2025 - 19/09/2025

- Contributed to the development of a VR-based medical simulator for surgical training using Unity, C#, and Blender, supporting the creation of interactive 3D environments for medical education.
- Developed immersive VR interactions and 3D assets to simulate surgical procedures, helping create a safe virtual environment for medical students to practice and improve procedural skills.

Final Year Project — LAPSSIM: VR Simulator for Laparoscopic Appendectomy | 15/05/2025 - 31/01/2026

- Developed LAPSSIM, a Virtual Reality (VR) simulator for Single-Incision Laparoscopic Surgery (SILS) appendectomy using Unity, C#, and Blender, integrating 3D anatomical models, virtual surgical instruments, and interactive operating-room environments for medical training.
- Implemented VR controller-based interactions, step-by-step surgical guidance, hands-on practice mode, and performance scoring to simulate key appendectomy stages in a repeatable, risk-free training environment using Meta Quest 2.

Technical Skills

Hard Skills

- **Programming Languages:** Python, JavaScript, TypeScript, C#
- **Web Development:** React.js, Next.js, Node.js, Express.js, HTML5, CSS3
- **AI & Machine Learning:** Large Language Models (LLMs), Natural Language Processing (NLP), model training
- **Databases:** MongoDB, MySQL, Firebase
- **VR & 3D Development:** Unity, Blender, Meta Quest
- **Software Engineering:** REST APIs, Git, GitHub, CI/CD, application security, software testing, QA
- **IT Applications:** Microsoft Office, WordPress, WooCommerce

Soft Skills

- Leadership and Team Coordination
- Communication and Mentoring
- Analytical Thinking and Problem-Solving

Leadership and Extra-Curricular Activities

Class Representative (CR) - BS Computer Science | 26/09/2022 - 11/02/2026

- Served as Class Representative from the second semester through the final semester, coordinating communication between faculty and students and conveying academic concerns and announcements.
- Facilitated class coordination, supported academic activities, and strengthened leadership, communication, teamwork, and problem-solving skills.