

Muhammad Athar

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EDUCATION

National University of Sciences & Technology – NUST

Bachelor of Engineering in Software Engineering

- **Honors:** Gold Medalist (Highest Academic Standing in cohort)

CGPA: 3.91

Sep 2022 – May 2026

EXPERIENCE

Software Engineer

Educative

July 2026 – Present

Lahore, Pakistan

- Extended LLM pipelines (LangGraph) for AI problem generation and streamed test diagnosis.
- Shipped 30+ full-stack features across Next.js/React frontends and Python/Datastore backends.
- Fixed reliability and Core Web Vitals regressions across backend, infra scripts and frontend.

Deep Learning Research Intern

RheinMain University of Applied Sciences

Jun 2025 – Aug 2025

Wiesbaden, Germany

- Implemented the Stormer model and optimized global weather forecasting by utilizing latent ERA5 dataset.
- Devised a flood forecasting pipeline fusing ERA5 weather data, river discharge maps, and Sentinel-1 satellite imagery.

Teaching Assistant (Data Structures & Algorithms)

National University of Sciences & Technology

Sep 2024 – Jan 2025

Islamabad, Pakistan

- Lectured on Git workflows and evaluated assessments for a cohort of 90 students under Prof. Dr. Faisal Shafait.
- Curated a HackerRank assignment comprising 5 algorithmic problems to test student proficiency.

Deep Learning Research Intern

TUKNL-NUST R&D Center

June 2024 – Aug 2024

Islamabad, Pakistan

- Worked on classification of EEG signals into normal and abnormal utilizing convolutional and transformer-based models.
- Proposed a novel EEG classification architecture achieving SOTA on the NMT dataset (+10% over baselines).

PROJECTS

Smart Banker | *Python, LLMs, Qdrant, LangChain, Unsloth, Streamlit*

Mar 2026 – Apr 2026

- Orchestrated a hybrid RAG pipeline using LangChain and Qdrant to build a secure AI banking assistant.
- Fine-tuned a Qwen2.5-3B model and secured user interactions using NeMo Guardrails and Presidio.

CereSignal | *Python, FastAPI, PyTorch, React, Git, Docker*

Sep 2025 – Jan 2026

- Designed a hybrid Deep Learning pipeline integrating SCNet and VGG16 to detect seizures and pathological waveforms.
- Integrated a privacy-preserving LLM report generator using Qwen 3 to automate standardized clinical reporting.

Virtual Therapist | *Python, RAG, LLMs*

Apr 2025 – May 2025

- Developed a RAG-based therapy AI using TinyLlama and FAISS to enable personalized, long-term memory.
- Incorporated vector-based retrieval to inject relevant past interactions into the model's context.

Cloud Video Storage Application | *Express.js, Google Cloud Platform (GCP), MongoDB, Node.js*

Nov 2024 – Dec 2024

- Architected a scalable microservices-based video platform on GCP using Node.js, Express, and MongoDB.

PUBLICATIONS

EEGWriter: A Multimodal Deep Learning Framework for Automated EEG Diagnostic Report Generation

Muhammad Athar, Hira Masood, Faisal Shafait, Hassan Aqeel Khan

Accepted at International Conference on Pattern Recognition (ICPR 2026)

Assessing Vulnerabilities to Adversarial Perturbations in EEG-Based Pathology Detection Systems

Hira Masood, Maham Jahangir, Muhammad Athar, Muhammad Imran Malik, Faisal Shafait, Hassan Aqeel Khan

Accepted at International Conference on Pattern Recognition (ICPR 2026)

ACHIEVEMENTS

- **Competitive Programming:** LeetCode Knight (Max Rating 1921, Country Rank 9) | CodeForces Expert (Max Rating 1745, Country Rank 13) | CodeChef Div 2 (Max Rating 1807, Country Rank 3).
- Clinched consecutive Gold Medals at the ICPC Asia Topi Regional On-site Contests (2025 & 2026).
- Secured 30th place globally in the CALICO Informatics Competition hosted by UC Berkeley (Fall '25).
- Selected as the awardee of the 6th Kibo-RPC (Robot Programming Challenge) UNOOSA slot.
- Recognized with 4 High Achiever Medals by NUST for exceptional performance in co-curricular domains.

LEADERSHIP & VOLUNTEERING

Volunteer Instructor (Competitive Programming) <i>National University of Sciences & Technology</i> Volunteered to teach weekly competitive programming sessions to first-year undergraduate students.	Sep 2025 – Feb 2026 <i>Islamabad, Pakistan</i>
Technical Lead <i>GDGoC NUST</i> - Allocated 50 DataCamp licenses to students to facilitate community upskilling in Data Science and AI. - Authored 6 algorithmic challenges for CodeQuest and managed problem curation and infrastructure for TAG.	Oct 2024 – May 2025 <i>Islamabad, Pakistan</i>
Press Secretary (2024–2025) & Team Lead Graphics (2023–2024) <i>ACM NUST Student Chapter</i> - Led end-to-end operations for the ACM NUST Programming Competition (ANPC). - Directed 4 portfolios (Graphics, Marketing, Media, Decor) and supervised a 6-member design team. - Served as Module Head and Instructor for Code o' Clock, teaching a 3-hour C++ workshop to 50+ attendees.	Oct 2023 – May 2025 <i>Islamabad, Pakistan</i>

TECHNICAL SKILLS

Languages (Programming): C/C++, C#, Python, SQL, JavaScript, Dart, Java
Libraries/Frameworks: PyTorch, TensorFlow, React, Flutter, Node.js, Django, Pandas, NumPy, Ollama, Llama.cpp
Tools/Platforms: Git, Docker, Linux, Bash, Neovim, Tmux
Languages (Spoken): English (IELTS Academic: 8.0), Urdu (Native)