

MOOSA ZAFAR KHAN

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PROFESSIONAL SUMMARY

Software Engineer and AI Developer with 3+ years of professional experience across full-stack development, multimodal AI agent systems, and cloud-native infrastructure. AWS Certified Solutions Architect - Associate. Currently pursuing an M.Sc. in Research in Computer & Systems Engineering at Technische Universitaet Ilmenau. Specialises in Python, TypeScript, React / Next.js, Django, Docker, and LLM orchestration -- with hands-on research experience in deep learning and Brain-Computer Interfaces.

EDUCATION

M.Sc. Research in Computer & Systems Engineering

Apr 2026 - Present

Technische Universitaet Ilmenau | Ilmenau, Germany

- Research-oriented programme (English-taught, 120 ECTS) in the Department of Computer Science and Automation
- Focus areas: Software & Systems Engineering, Advanced Database Systems, Algorithms, Mobile Communication Networks, Systems Security, Control Engineering

B.Sc. Software Engineering

Aug 2020 - Jun 2024

FAST - National University of Computer and Emerging Sciences (NUCES) | Karachi, Pakistan

- Final Year Project (Grade A): UNet-Transformer for EEG Motor Imagery Classification -- developed a Transformer-UNet hybrid model for BCI achieving 80.89% accuracy on BCI Competition IV 2b and 57.97% on IV 2a
- Relevant coursework: Data Structures & Algorithms, Computer Networks, OS, Software Design & Architecture, Applied DevOps, Information Security, Web Engineering, OOP, Bioinformatics

WORK EXPERIENCE

Founding Engineer / AI Full-Stack Engineer | Superta

Jan 2025 - Feb 2026 | Karachi, Pakistan

- Architected a production multimodal AI agent pipeline using LiveKit and Pipecat -- real-time audio/video streaming, LLM orchestration, and dynamic agent behaviours powering low-latency interactive experiences
- Sole engineer on the full stack: designed and shipped the MVP (Next.js + Django), then scaled the architecture with Ruby on Rails APIs, background workers, and a modular service layer
- Built a robust state layer with Redux Toolkit and Context API; delivered a fully responsive, accessible component library in Tailwind CSS + ShadCN that non-engineers could iterate on
- Introduced TypeScript strict mode, acceptance-test coverage, and a feature-flag workflow -- cutting regression surface before the product had a QA team

Software Engineer | Edge Firm

Nov 2023 - Sep 2024 | Karachi, Pakistan

- Owned frontend delivery for US and European clients across React, Next.js, React Native, and Flutter -- gathering requirements directly, defining the code architecture, and shipping production-grade cross-platform UIs
- Designed and integrated RESTful APIs using Express.js, NestJS, and .NET; engineered complex data-filtering layers and business-logic pipelines serving live user traffic
- Embedded AI capabilities into client products using TensorFlow and PyTorch -- real-time inference pipelines that fed directly into user-facing decision flows
- Planned and executed an AWS cross-account migration of a Node.js / MongoDB service: S3 data transfer, IAM policy re-scoping, and cutover with no production downtime

Freelance Full-Stack Web Developer | Self-Employed

Jul 2021 - Nov 2023 | Remote

- Shipped high-performance marketing and product sites for crypto launches using React, TypeScript, and Tailwind CSS -- handling the full cycle from client brief to live deployment
- Built and connected Ruby on Rails backends and third-party REST APIs; optimised frontend bundles and rendering pipelines for fast, smooth user experiences
- Worked directly in Figma with designers and clients, translating UI/UX mockups into pixel-perfect, brand-consistent implementations

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, C++

Frontend: React, Next.js, React Native, Flutter, Redux Toolkit, Tailwind CSS, ShadCN, Context API

Backend: Django, Flask, Node.js, Express.js, NestJS, Ruby on Rails, REST APIs, .NET

AI / ML: TensorFlow, PyTorch, Deep Learning, LLM Pipelines, Prompt Engineering, LiveKit, Pipecat, BCI, EEG Signal Processing

Cloud & DevOps: AWS (EC2, S3, IAM, VPC, RDS), AWS Solutions Architect Certified, Docker, CI/CD, Kubernetes (basic)

Databases: MongoDB, PostgreSQL, MySQL

Tools & Methods: Git, GitHub, Figma, Agile / Scrum, Test-Driven Development, REST, GraphQL

CERTIFICATIONS & AWARDS

AWS Certified Solutions Architect - Associate | AWS Training and Certification | April 2026 | [View Badge](#)

Neural Networks and Deep Learning | DeepLearning.AI (Coursera) | Jun 2023

Docker Training Course | KodeKloud | Oct 2023

Academic Excellence Award | FAST-NUCES | Feb 2024

KEY PROJECTS

UNet-Transformer for EEG Motor Imagery Classification (Bachelor Thesis)

- Proposed and implemented a novel Transformer-UNet hybrid architecture for EEG-based Motor Imagery classification in Brain-Computer Interface systems
- Achieved 80.89% accuracy on BCI Competition IV 2b and 57.97% on IV 2a -- surpassing conventional CNN baselines through enhanced spatial-temporal feature learning

Intention of Movement Detection via BCI

- Led integration of AI models for detecting subtle muscle-movement intentions through Brain-Computer Interface technology
- Developed advanced data-preprocessing pipelines for streamlined model training; optimised convergence and improved system responsiveness

LANGUAGES

English: C1 -- IELTS Academic 7.5 (Dec 2024) | **Urdu:** Native | **German:** A1 / currently learning

PERSONAL DETAILS

Date of Birth: 24 January 2002 | **Nationality:** Pakistani