

MUHAMMAD AHMAD

Software Engineer, Full-Stack, Backend & AI Systems

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PROFESSIONAL SUMMARY

Software Engineer with 3+ years of experience across Backend, Full-Stack and AI Systems, scaling high-traffic platforms for Zameen.com, Bayut.sa and Propforce (40M+ monthly users). Currently pursuing an M.Sc. in Computer & System Engineering at TU Ilmenau. Bringing hands-on expertise in Node.js, TypeScript, agentic AI pipelines and distributed systems to a German engineering team.

PROFESSIONAL EXPERIENCE

DubizzleLabs (Propforce, Zameen.com, Bayut.sa)

Senior Software Engineer

Jul 2023 – Jul 2026

Lahore, Pakistan (On-site)

- Designed and shipped AVA, an internal AI copilot and autonomous delivery pipeline now used across multiple Dubizzle products, letting business teams query live data and ship code end to end from one chat interface (details under Projects & Research).
- Deployed MCP (Model Context Protocol) servers giving AI agents direct access to internal APIs, cutting manual developer lookups by ~30%, and built a RAG knowledge base for plain-English search across architecture docs and onboarding guides.
- Built an end-to-end mortgage feature adopted by 5,000+ active clients and automated staff task allocation using AI-powered call transcription, voice agents, and workflow automation.
- Implemented RBAC-based logging and observability (metrics and tracing) across critical CRUD operations, and added parallel cron jobs and background workers that meaningfully improved system throughput.
- Optimized MySQL and PostgreSQL schemas and query performance for high-volume transactional data across Propforce's core APIs.

Node.js · TypeScript · NestJS · Next.js · PostgreSQL · MySQL · Redis · Microservices · AWS · MCP · LangChain · RAG

Beacon Secure

Software Engineer, Backend

Jan 2024 – Jan 2025

United Kingdom (Contract)

- Built the entire backend from scratch in NestJS, TypeScript and MongoDB, including schema design and legacy-data migration for an acquired product.
- Designed RESTful APIs for mobile and web clients; the API patterns I set were adopted team-wide.

NestJS · TypeScript · MongoDB · REST APIs

Stacks Pakistan

Community Lead / Blockchain Developer Lead

Mar 2021 – Jan 2024

New York, USA (Remote)

- Led Pakistan's Stacks blockchain chapter, running hackathons and bootcamps across campus chapters, training 89 students, 22 of whom went on to international Web3 roles.

Stacks · Blockchain · Web3 · Technical Training · Community Leadership

EDUCATION

TU Ilmenau — M.Sc. Research in Computer & System Engineering

Mar 2026 – Current

FAST National University of Computer & Emerging Sciences — BSc Computer Science

Aug 2019 – Sep 2023

Dean's Honor Roll (GPA 3.5+), 7th nationally in the NU admission test

PROJECTS & RESEARCH

AVA — Internal AI Copilot & Autonomous Delivery Pipeline (DubizzleLabs)

2026

- Built a chat interface that business and product teams log into via SSO across Propforce, CarForce and other Dubizzle products, backed by product-specific MCP servers that pull live data from databases and OpenSearch to generate custom reports on demand.
- Extended AVA so teams could describe new requirements in chat; it asked clarifying questions, drafted wireframes from the internal knowledge base and an LLM, and filed a Jira ticket with the wireframe attached.
- Chained this into an autonomous delivery pipeline: a Claude skill turned the ticket into an engineering plan, opened a branch and GitHub issue, and triggered a workflow that generated code and tests, opened a PR, commented back on Jira and notified QA, who verified the changes with their own Claude skill.

NestJS · Next.js · PostgreSQL · Redis · MCP (Model Context Protocol) · TypeScript · Claude API · Agentic Pipelines

Data-Integrity Layer for a LangChain QnA System (with 2 PhD collaborators)

2024 – Present

- Built a LangChain-based QnA system over an EU-focused fake-news dataset, then layered a data-integrity system on top that records each document's identifiers (hash, filename, size) at upload time.
- At inference time, re-verifies retrieved context against its recorded fingerprint before it reaches the model, catching data-poisoning or tampering attempts; hashes are anchored on Polygon with content stored via IPFS/Pinata. Paper in progress.

LangChain · Python · Polygon · IPFS · Pinata · NestJS · RAG

GitHub: [backend](#) · [smart contracts](#)

Decentralized Property Management Platform — Final-Year Thesis

2022 – 2023

- Led a 3-engineer team building a property management dApp on Solidity smart contracts with a Node.js and MongoDB backend, aimed at bringing transparent, tamper-proof record-keeping to public-sector property transactions.

Solidity · Node.js · MongoDB · Smart Contracts

GitHub: [Decentralized-Record-Filing-System](#)

TECHNICAL SKILLS

AI / LLM MCP (Model Context Protocol) · Agentic Pipelines · RAG (Retrieval-Augmented Generation) · LangChain · LLM Integration · Claude API · OpenAI API · Prompt Engineering

Backend Node.js · TypeScript · NestJS · Next.js · Express.js · REST APIs · GraphQL · Microservices

Databases PostgreSQL · MySQL · MongoDB · Redis · Sequelize ORM · Query Optimisation

Infra / Tools AWS · Docker · Git · GitHub Actions · CI/CD · System Observability (Logging, Metrics, Tracing)

Practices Agile/Scrum · Code Review · Unit & Integration Testing · Technical Design Documentation

Languages TypeScript · JavaScript · Python · Golang · C++ · Solidity