

MUHAMMAD BILAL NAQVI

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About Myself

Computer Science student with hands-on experience shipping full-stack mobile and AI-powered applications. Proficient in Flutter, FastAPI, Node.js, and LLM APIs (Anthropic Claude, OpenAI), with practical exposure to vector databases, NLP model fine-tuning, and real-time system integration. Actively building consumer-facing AI products with real monetization models.

Technical Skills

Languages:

Dart, Python, JavaScript, Java, C++, SQL

Frameworks & Libraries:

Flutter, FastAPI, Node.js, Express.js, React, Bootstrap

AI / ML:

Anthropic Claude API, OpenAI API, FAISS, BERT, RoBERTa, DANN, LangChain

Databases & Cloud:

MongoDB, Firebase, PostgreSQL, SQLAlchemy, Cloudinary, Railway, Stripe

Tools:

VS Code, Android Studio, Figma, Postman, Jupyter, Git/GitHub, Cisco Packet Tracer

Projects

Omnix AI — Personal Productivity Life Assistant | *FastAPI • OpenAI • FAISS • Flutter • Stripe*

- Architected a freemium AI life assistant for iOS, Android, and web with subscription tier enforcement (free / pro / enterprise) and Stripe billing integration.
- Backend: FastAPI + SQLAlchemy + OpenAI GPT with FAISS vector memory for semantic recall across sessions, token usage tracking, and file-reading capabilities.
- Implemented per-tier rate limiting, JWT authentication, and a React chat prototype with web search and citation rendering before migrating frontend to Flutter.

StyleMuse — AI Fashion Companion | *Flutter • Node.js • MongoDB • Anthropic Claude API • AR*

- Built an end-to-end AI fashion app: Flutter frontend with Provider state management, encrypted authentication, and custom AR outfit try-on screens (camera + sensors_plus).
- Backend: Node.js + Express + MongoDB REST API for closet management and AI outfit generation via Anthropic Claude; deployed on Railway with Cloudinary image storage.
- Integrated encrypted auth flows, 12 outfit profiles, and APK release with signing and split-per-ABI optimization.

Blockchain Transaction System | *Python • Flask • Parallel Computing • P2P Networking*

- Simulated a complete blockchain network with parallel Proof-of-Work mining using Python threading and a fully distributed P2P node architecture.
- Implemented cryptographic wallets, Merkle-root tamper detection, and a real-time Flask web dashboard for live chain monitoring and transaction visualization.

Domain-Adaptive NLP — Aspect-Based Sentiment Analysis | *Python • BERT • RoBERTa • DANN*

- Performed aspect-based sentiment analysis on Roman Urdu–English mixed e-commerce reviews using Domain-Adversarial Neural Networks (DANN) for cross-domain transfer.
- Fine-tuned BERT and RoBERTa transformers with custom aspect extraction heads; achieved strong cross-domain generalization on low-resource mixed-language corpora.

Full-Stack REST API Backend | *Node.js • Express.js • MongoDB • Cloudinary • Railway*

- Built a full RESTful API with Node.js and Express.js, following MVC architecture

- ❑ Designed and managed MongoDB schemas with Mongoose for scalable data modelling
- ❑ Integrated Cloudinary for cloud-based image upload and transformation
- ❑ Deployed the live application to Railway with environment-based configuration
- ❑ Implemented JWT authentication, input validation, and structured error handling

Experience

Software Intern – OGDCL Power Plant, Qadirpur, Pakistan July 2025

- Worked with SAP HANA/S4 enterprise systems for operational data analysis; analyzed network architectures and evaluated security protocols.
- Contributed to a Software-Defined Networking (SDN) initiative and reduced hardware costs by 18% through infrastructure optimization.

Certifications

Front-End Software Engineering Job Simulation – Skyscanner • Forage May 2026

Task: Build a Backpack React Web App • Verification: vo7fYiAnZZLnqatuJ

Education

Bachelor of Computer Science – NFC Institute of Engineering & Technology, Multan 2023 – 2027

Relevant Coursework: Data Structures, AI, Web Development, Software Engineering, Information Security, HCI, Mobile App Development

Tools & Technologies

Flutter • FastAPI • Node.js • Express.js • MongoDB • React • Firebase • Cloudinary • Railway • Stripe
• OpenAI API • Anthropic Claude API • FAISS • GitHub • Figma • Postman • Jupyter • MS Office