Muhammed Haroon

haroonbmc0@gmail.com•+91 9995545971•Kerala, India•linkedin.com/in/muhammed-haroon•github.com/haroon0x

TECHNICAL SKILLS

Programming & Languages: Python, JavaScript, Java, C, SQL, Shell Scripting, HTML/CSS
AI & Machine Learning: Deep Learning, Neural Networks, XGBoost, PyTorch, Pandas, NumPy, Feature Engineering
Backend & APIs: FastAPI, Flask, REST APIs, CORS, JSON, HTTP
AI Agents & Frameworks: Google ADK, SmolAgents, PocketFlow, Agent Architectures
DevOps & Tools: Docker (Basic), Git, GitHub, Postman, cURL, Render, Netlify, Supabase

View my open-source contributions on GitHub: github.com/haroon0x

KEY PROJECTS

AI Diabetes Management Platform (Early Stage)

2025 - Present

Technologies: FastAPI, XGBoost, CGM Integration, Wearable APIs, Data Security

- Contributing to initial backend architecture for an early stage U.S. healthcare platform
- Developing predictive models for glucose forecasting and meal impact analysis for diabetes patients
- Integrating data from CGMs, wearables, and nutrition logs
- Ensuring scalable APIs and secure data handling

Promptuous – Chrome Extension for Prompt Optimization

2025

Technologies: FastAPI, Gemini API, Crawl4AI, Supabase, Chrome Extension

- Developing a Chrome extension that enhances user prompts using LLMs for improved clarity and output quality
- Implementing lightweight text scraping from active tabs to support context-rich prompt inputs
- Building backend infrastructure with FastAPI, integrating Gemini API and Crawl4AI for intelligent processing
- Utilizing Supabase for efficient data management and storage

Percolation Hypotheses Generator

2025

Technologies: Python, NLTK, NumPy, SciPy, Data Analysis

- Explored advanced natural language processing and information theory to quantify hypothesis complexity and information density.
- Confronted significant challenges in developing a universally accurate computational method for measuring qualitative information density.
- Gained valuable insights into the complexities and limitations of applying quantitative metrics to inherently qualitative concepts in AI research.

Neural Network from Scratch

2024 - Present

Technologies: Python, NumPy, Object-Oriented Programming, Linear Algebra, Mathematical Computing

- Developed a foundational neural network library from scratch in Python using NumPy, implementing core deep learning components.
- Designed a modular, object-oriented architecture for extensible layers and activation functions (ReLU, Sigmoid, etc.).
- Focused on mathematical precision and numerical stability in component implementation, including dense layers.
- This project is currently under active development as I continue to expand its capabilities.

Drone QR Detection System

2024

Technologies: Python, OpenCV, PyMAVLink, Computer Vision, Drone Automation

- Built Python drone control system using PyMAVLink for autonomous flight operations.
- Implemented real-time QR code detection using OpenCV for precision landing missions.
- Developed automated flight sequences: takeoff, navigation, landing, and payload deployment.

EDUCATION

B.Tech in Artificial Intelligence and Machine Learning

2024 - 2028

Mar Athanasius College of Engineering, Kerala

AREAS OF EXPERTISE

- **AI & Machine Learning:** Deep learning, predictive modeling, and neural network architectures
- **HealthTech:** Medical data analysis, biosensor integration, and healthcare AI solutions
- **Backend Development:** Scalable API design, microservices architecture, and cloud deployment
- **Research & Innovation:** Active participation in AI hackathons and emerging technology research