

Muhammad Ahmad

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Interests

Passionate about problem-solving, scalable system design, and building impactful software products. Strong interest in full-stack development, cloud computing, and emerging technologies. Motivated to contribute in collaborative teams, continuously learn, and grow as a professional developer.

Education

Lahore University of Management Sciences (LUMS)

BSc. (Hons.) Computer Science

Lahore, Pakistan

Sept 2022 – Present

Relevant Coursework: Data Structures & Algorithms, Operating Systems, Databases, Machine Learning, Deep Learning, Object-Oriented Programming, Discrete Mathematics, Linear Algebra, Data Science

Lahore Grammar School (Phase 5)

A-Levels (Grades: 2A, 1B)

Lahore, Pakistan

2019 – 2021

Projects

Campus Cart – Dorm Delivery & Bidding System | MERN, Socket.IO

- Built a full-stack MERN application for real-time delivery bidding and tracking.
- Implemented JWT authentication, secure routing, and Socket.IO for live updates.
- Developed an admin dashboard for complaints and user management.

NotePal – Real-Time Meeting Transcriber | React, Node.js, WebSockets, Whisper API

- Developed a web app that transcribes Zoom and Google Meet sessions in real time using OpenAI's Whisper API.
- Implemented live streaming and note generation with WebSockets, ensuring latency under 2 seconds.
- Added keyword highlighting and automatic meeting summary export to PDF/Markdown.

Guided Generation & Control in Pretrained Diffusion Models | Stable Diffusion, HuggingFace

- Used Stable Diffusion for prompt-guided image generation, inpainting, and style transfer.
- Integrated ControlNet + Canny Edge Detection for structure-aware image synthesis.
- Explored classifier-free guidance scale effects using HuggingFace Diffusers.

Classification of Urdu News Articles | NLP, scikit-learn

- Scrapped Urdu news data and developed classification models: Naive Bayes, Logistic Regression, MLP.
- Evaluated models on Accuracy, Precision, Recall, and F1-Score.
- Contributed to NLP for underrepresented languages.

Electricity Billing System – SQL Integration | FastAPI, Oracle Cloud

- Designed a FastAPI backend with stored procedures and SQL queries.
- Deployed system on Oracle Cloud Infrastructure using Nginx and VMs.
- Created API endpoints for bill retrieval, payments, and adjustments.

Technical Skills

Programming Languages: C, C++, Python, JavaScript, TypeScript, Haskell, HTML5, CSS

Web Development: React, Node.js, Next.js, Express.js, Django, Flask, Tailwind CSS, Bootstrap

Machine Learning & AI: PyTorch, TensorFlow, LangChain

Databases: MongoDB, MySQL

Tools & Others: MATLAB, Docker, Git