Muhammad Abdullah Amin

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EDUCATION

Information Technology University of the Punjab   Lahore, Pakistan
Bachelor of Science in Computer Science (In-Progress)   *2023 – 2027*

EXPERIENCE

AI/ML Intern   Jun 2025 – Aug 2025
Sysmatixx   *On-site*

- Contributed to the design and implementation of a **Smart Inventory Detection System**, working on the entire machine learning pipeline. Utilized **Roboflow** for dataset preparation and augmentation, **Python** and **TensorFlow** for model training and optimization. Deployed a detection model that enabled intelligent shelves to track inventory levels in real time, trigger automated restocking workflows, and support instant checkout functionality, creating a fully automated smart toy store experience.
- Played a critical role in developing a **Distributed Lead Generation Platform** aimed at streamlining business data acquisition. Contributed to system architecture planning and implemented the frontend using **React**, integrated backend services in **Python**, managed databases through **Supabase**, and automated processes with **n8n**. This scalable platform improved lead collection efficiency and laid the foundation for future business intelligence solutions within the organization.

PROJECTS

[COSMOS – Multi-Agent AI Platform](#) | *React, FastAPI, Python, C++, LangChain, Groq LLMs, OpenAI API*

- Built an integrated AI platform featuring RAG chatbot, YouTube transcript processor, and Gmail agent within a collaborative workspace.
- Implemented Retrieval-Augmented Generation (RAG) for knowledge-grounded chat using PDFs, URLs, Images, and YouTube content.
- Developed Gmail agent with OAuth 2.0, email summarization, classification, and contextual reply generation using LLMs.
- Integrated YouTube processor for transcript extraction and vector DB embedding (Pinecone) to enable cross-content search.
- Designed secure invite-based authentication with session handling, CSRF protection, and admin panel for access control.

Steam Gaming Achievement Tracker | *React.js, Node.js, Express.js, MongoDB, REST APIs*

- Developed a web app to track and compare Steam achievements across multiple users with real-time updates and responsive UI.
- Implemented REST APIs for achievement retrieval, user profile management, and data storage in MongoDB.

AuTisTick | *Flutter, Dart, FastAPI, Python, Supabase, OpenAI API, TickTick API*

- Developed a cross-platform AI task assistant with natural language task creation powered by NLP and TickTick API integration.
- Implemented offline-first task queue with automatic retry, real-time status updates, and persistent storage.
- Designed a modern Material Design 3 UI with glassmorphism, Rive animations, and dark mode optimization.
- Integrated Supabase for secure auth, encrypted token storage, and JWT-based session handling.

GCRTT Automator | *Python, FastAPI, Google APIs, OpenAI API, Groq LLMs, Render*

- Built an automation service to convert Google Classroom assignments into structured TickTick tasks with AI-based parsing.
- Implemented real-time monitoring, smart deduplication, priority-based scheduling, and contextual task generation.

- Integrated Groq LLMs and GPT for NLP-driven task creation and Render-based cron deployment for 24/7 operation.
- Ensured secure OAuth 2.0 authentication, encrypted token management, and robust error handling with retry logic.

Technical Skills

Languages: C++, C#, Python, JavaScript, TypeScript, SQL, Flutter, Dart, Assembly (IPAX88, Arch), MySQL

Frameworks & Libraries: React, Node.js, FastAPI, LangChain, Unity, TailwindCSS, Vite, Radix UI, Zustand, React Router, React Hook Form, Framer Motion, pybind11, SQLAlchemy, Alembic, Mixamo

Databases: PostgreSQL, MongoDB, Pinecone, Firebase, Supabase

Developer Tools: Git, GitHub, VS Code, Docker, CMake, npm, Uvicorn, CI/CD, Blender

Cloud & Platforms: Microsoft Azure, Google Cloud Platform, Heroku, Firebase, Render, OpenAI API, Groq API