AGHAR USMAN KANNANTHODI

Software Developer | Backend, Front End & AI/LLM Applications

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github.com/aghar-usman | Portfolio: aghar-portfolio.vercel.app

PROFESSIONAL SUMMARY

Software developer with internship experience building **Python backend services, REST APIs, SQL databases, and ETL pipelines**, plus **React and Next.js** front ends deployed on Vercel. Built an **LLM-powered Text-to-SQL assistant** (Llama 3, Mistral, Ollama) with fallback, retry, and security safeguards. Strong in debugging and data validation, writes clear documentation, and learns new tools quickly. Interested in backend, full-stack, and AI engineering roles.

TECHNICAL SKILLS

Backend & APIs: Python, Flask, FastAPI, REST APIs, Token-Based Authentication, Rate Limiting, Java, C

Front End: React.js, Next.js, TypeScript, JavaScript, HTML5, CSS3, Tailwind CSS, Framer Motion, GSAP

Databases & Data: PostgreSQL, MSSQL, MySQL, SQLite, SQL (Joins, CTEs, Subqueries), ETL Pipelines, Pandas, NumPy, Data Validation

AI & LLMs: LLM Integration, Text-to-SQL, Prompt Engineering, Ollama, Llama 3, Mistral, Claude, HuggingFace, TensorFlow, PyTorch, OpenCV

Tools & Cloud: Git/GitHub, Docker, Linux, GCP, CI/CD, Vercel

PROFESSIONAL EXPERIENCE

Intern
Feb 2025 – May 2025

Team Thai | Calicut, Kerala

- Built an **AI Text-to-SQL assistant** (Llama 3 and Mistral via Ollama) for an ERP, letting business users query an MSSQL sales database in plain English; added dual-model fallback, 3-attempt retry logic, and thread-safe TTL caching for reliability.
- Secured the assistant with SELECT-only enforcement and 7-pattern SQL-injection detection to protect live business data.
- Developed a **Flask REST API** with thread-pool concurrency, pagination (10–500 rows), and CSV export; cut response time by ~35% through caching and batch fetching.
- Designed a **PostgreSQL ETL pipeline** for a 22-column schema with batch loading (100 rows/batch), timestamp normalization, per-record retry, and automated failed-record reports.

TECHNICAL PROJECTS

SU · EN Studio – Prototype for an Architecture Studio
2026

Next.js | TypeScript | Tailwind CSS | Framer Motion | GSAP | Vercel

- Built a responsive site with Next.js (App Router) and TypeScript, generating project pages from one typed data file, with image galleries, animations, light/dark theme, and a contact form.
- Deployed on Vercel with automatic redeploys from GitHub.

Personal Developer Portfolio
2026

Next.js | React | TypeScript | Tailwind CSS | Vercel

- Built a single-page portfolio at aghar-portfolio.vercel.app, rendering stack, experience, projects, and education from one typed content config, with anchor navigation, resume download, and Vercel deployment.

AgriLeaf Pro – Plant Disease Detection with IoT
2024 – 2025

Python | TensorFlow | Flask | OpenCV | ThingSpeak | GCP

- Trained a 5-layer CNN to classify 19 plant diseases across 4 crops (85%+ accuracy, sub-100 ms inference) and built a Flask API with OpenCV preprocessing and token-based authentication.
- Integrated a ThingSpeak IoT pipeline ingesting six real-time soil parameters with seven days of historical visualization.

EDUCATION

B.E. – Information Science and Engineering
Aug 2021 – May 2025

Malnad College of Engineering, Hassan | VTU | CGPA 7.81/10 (First Class with Distinction)

Coursework: Data Structures & Algorithms, DBMS, Operating Systems, Computer Networks, Software Engineering, Machine Learning

ACHIEVEMENTS

- **State-Level Hackathon – 2nd Place:** Led a four-member team, owned the backend architecture, and delivered a working product in six hours.