M Mithun Miras

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Professional Summary

Integrated M.Tech CS student who builds scalable, reliable systems for high-volume data pipelines and owns projects end-to-end – from scoping to production. Sole architect of NexAI, a batch-consolidation data platform deployed on AWS/GCP/Firebase, and built a real-time ML monitoring dashboard (WindGuard) for automated fault detection. Strong CS fundamentals – data structures, algorithms, and OOP – across Python, Java, and C; use LLM tooling as part of the daily development workflow.

Education

Vellore Institute of Technology

Integrated M.Tech in Computer Science (Business Analytics) — *2023 – Present* — *7.39/10 CGPA*

Work Experience

Chang Gung University – TEEP Research Intern (Fully Funded) — **Taoyuan, Taiwan**

Research Intern, AI & Business Innovation – under Prof. Chung-Ming Chang — *May 2026 – Jul 2026*

- Owned NexAI end-to-end as sole architect – scoped, designed, and deployed the system architecture (service boundaries, AWS/GCP/Firebase pipeline, monitoring/logging) from first principles to production.
- Built the platform's AWS-based, time-windowed batch-consolidation pipeline (Python, PostgreSQL) for order data across 68 retail channels, cutting error rates 15% and manual reconciliation 10–15 hrs/week; used Gemini 2.5 agentic workflows and RAG during development. Filed a US Provisional Patent Application on the core batch-consolidation engine.

Digitner — **Remote**

Software Engineering Intern (Full Stack & Cloud) — *Sep 2025 – Present*

- Reduced average API latency 40% by profiling request paths, adding caching layers, and optimizing infrastructure performance – identified bottlenecks through systematic performance analysis.
- Built backend services with Node.js/Express and MongoDB; automated CI/CD deployments with Docker and implemented JWT authentication with Role-Based Access Control (RBAC) across modular, OOP-designed services.

Cordite Factory Aruvankadu (Defence PSU) — **Aruvankadu, TN**

Software Engineering Intern – Frontend Systems — *Jun 2024*

- Built a React-based access-control frontend (RBAC) against a MySQL-backed backend for an internal defense-sector system; collaborated cross-functionally under strict SDLC and QA protocols.

Projects

WindGuard: Real-Time Fault Monitoring | *MLP, SHAP, React, Python* — **Dec 2025**

- Built an end-to-end quality-monitoring system: an MLP model reaching 98.1% accuracy detecting gearbox/generator faults from sensor data, with SHAP explainability and a real-time React dashboard driving automated alerts.

Carbon-Trace: IoT Sensor Data Pipeline | *Python, IoT, Blockchain, Encryption* — **Sep 2025**

- Built the sensor data pipeline and real-time dashboard for live carbon-emission tracking across distributed IoT devices, plus encrypted RESTful gateways to prevent data manipulation in transit – built with a team at the VIT YUVA Club Hackathon (Runner Up, 250+ participants).
- Automated emission calculations and data normalization for continuous live sensor streams.

NexAI Edge-to-Shelf: Farm AIoT Platform | *AWS, GCP, PostgreSQL, Gemini 2.5, RAG, Firebase* — **2025 – 2026**

- Built Farm2Market AI – live product *"Dr. Chang's Happy Farm"* (changfarm.netlify.app) – a time-windowed batch-consolidation platform reducing agricultural order error rates by 15% and saving farmers 10–15 hours of manual reconciliation weekly across 68 verified retail channels.
- Engineered multi-modal AI agents using Gemini 2.5 with agentic workflows and RAG via the Gemini File Search API, deployed on AWS/GCP/Firebase; kept AI processing costs below 1% of transaction revenue.

Patents

US Provisional Patent App. #64/095,592 | *USPTO, 35 USC 111(b)* — **Filed Jun 22, 2026**

- *System and Method for Location-Anchored Group Commerce with Time-Windowed Batch Consolidation via Messaging Platform Integration* – Pertains to the NexAI platform's core batch-consolidation engine (Confirmation #2759).

Technical Skills

CS Fundamentals: Data Structures & Algorithms, OOP Design, Concurrency, Operating Systems
Programming: Python, Java, C, JavaScript (ES6+)
Backend & Databases: Node.js/Express, REST APIs, PostgreSQL, MySQL, MongoDB
Systems & Networking: TCP/IP (Layer 3–7), Multithreading, Socket Programming, Firewall/WAF/IDS
Data & ML: Scikit-Learn, MLP Neural Networks, SHAP, Pandas
Cloud & Automation: AWS, GCP, Firebase, Docker, CI/CD
AI Tooling: Gemini API, RAG, Agentic Workflows, LLM-assisted development
Tools: Git, Linux, Debugging & Profiling

Achievements

- **Finalist, 2026 Best AI Awards**, Ministry of Economic Affairs, Taiwan – AI Application/Startup & SME category, for NexAI Edge-to-Shelf.
- **Runner Up**, VIT YUVA Club Hackathon – top among 250+ participants.
- **Leadership**: Technical & Outreach Lead, Microsoft Innovations Club; Outreach Lead, Office of Student Welfare – VIT Chennai.