

MD FARDIN

AI Backend Engineer driven by hard problems and end-to-end ownership.

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PROFESSIONAL SUMMARY

AI Backend Engineer passionate about tackling complex challenges and ensuring end-to-end ownership. Successfully launched a production Indian tax intelligence platform, managing document ingestion at scale (over 10,000 documents, 1-1,000 pages each), implementing a **4-layer PII redaction** process across more than 10 Indian identifier types, and developing a **15-stage vectorless RAG pipeline** with cross-encoder reranking and MCP server exposure. Adopted a vectorless architecture, eliminating the need for GPU and embedding infrastructure. Quick to learn new technologies, committed to system correctness, and consistently striving for deeper insights.

WORK EXPERIENCES

AI Backend Engineer | Full-time

Jul 2025 - Present

Suguna Fintax Tech Pvt. Ltd.

On-site • Chennai

- Architected core backend services, asynchronous pipelines, and AI integrations for a production-scale **Indian Tax Intelligence Platform** supporting **GST, Income Tax, TDS, and ROC**.
- Built a scalable ingestion pipeline processing over **10,000** multi-format documents using **FastAPI, Celery, Redis, AWS S3, PyMuPDF, Tesseract OCR, and Docker**.
- Developed a custom **PII redaction engine** with **Microsoft Presidio, spaCy, and Flair NER** to detect and mask over **10** Indian-specific identifiers.
- Engineered a **15-stage RAG retrieval pipeline** using **PostgreSQL (Itree, BM25 FTS), Mistral LLM, cross-encoder reranking, and SSE streaming**.
- Enhanced platform reliability through **MCP integration**, fault-tolerant workflows, and observability with **OpenTelemetry, Prometheus, and structlog**.

Technologies / Skills Used : Python, FastAPI, AWS Bedrock, Retrieval-Augmented Generation (RAG), Qdrant, PostgreSQL, AWS S3, Docker

EDUCATIONS

Dr. MGR Educational And Research Institute | Chennai

2021 - 2025

B.Tech — CSE -AI & Data Science

CGPA : 7.68

Kaligi Ranganathan Montford Hr. Sec. School | Chennai

2020 - 2021

Higher Secondary (XII)

CGPA : 77%

Kaligi Ranganathan Montford Hr. Sec. School | Chennai

2018 - 2019

Secondary (X)

CGPA : 71%

UNIFIED HEALTH RECORD HUB (UHRH)

Python • Flask • PostgreSQL • TensorFlow • MongoDB • Docker • React

- Designed a centralized EHR platform architecture supporting **1,000+ medical records** with **JWT-based role-access control** for **3 user roles** (Admin, Doctor, Patient), adhering to **OWASP security standards**.
- Proposed **TensorFlow ML models** for Alzheimer's, CKD, and Cancer prediction, achieving **85%+ accuracy** trained on **10K+ patient records**, utilizing SMOTE for class imbalance; published findings as a research paper.
- Developed an **interoperability layer** to aggregate EHRs, genomic data, medical imaging, and patient outcomes across diverse healthcare providers.

PROJECTS

Cloud-Based File Management & Storage Service

Python Backend Developer

- Developed a secure cloud-based file management platform with file upload, download, folder organization, version control, and role-based access management.
- Designed and implemented scalable RESTful APIs using **FastAPI**, enabling secure file operations, authentication, and metadata management.
- Integrated **AWS S3** and **PostgreSQL** to support **100,000+ file metadata records** with optimized indexing and low-latency retrieval.
- Implemented **JWT authentication, RBAC, audit logging, and activity tracking**, securing **100% of protected API endpoints**.

Technologies / Tools Used : Python, FastAPI, PostgreSQL, SQLAlchemy, AWS S3, Docker, JWT Authentication, Nginx