

AMARTYA ANAYACHALA

Chennai | amartya2704@gmail.com | 8810268750 | amartyaanayachala.vercel.app | linkedin.com/in/anayachala | github.com/azrael-2704

SUMMARY

AI Engineer building production agentic and deterministic decision systems for enterprise insurance on AWS. Leading the conversion of an LLM-agent enrollment pipeline to a DMN rules engine (projected ~70% inference cost reduction) and shipped a mainframe automation pipeline at ~90% end-to-end automation with human-in-the-loop review. Built Donna OS, a sandboxed multi-agent runtime, and hold a published Indian patent application in assistive technology.

WORK EXPERIENCE

Data & AI Engineer, Guardian India - Chennai

June 2026 – Present

- Leading the conversion of an LLM-agent insurance enrollment system (AWS Bedrock/AgentCore) to a Decision Model and Notation (DMN)-driven deterministic pipeline, projected to cut inference costs ~70% based on current call volume and per-call pricing.
- Engineered an agentic processing pipeline for COBOL-based mainframe systems, ingesting and processing input data to drive automated decisions with 100% decision accuracy and achieving ~90% E2E automation, including situation based agent outreach and follow ups.
- Implemented a human-in-the-loop workflow that automatically routes the remaining ~10% of cases to manual review, while reducing average request processing time from ~3 minutes to ~1 minute and substantially reducing manual processing effort and operational costs.
- Building a company-wide testing platform that analyzes domain knowledge, automatically generates test cases and test data, and orchestrates their execution against mainframe systems, improving the scalability and consistency of system validation.

AI & Automation Intern, Guardian India - Chennai

January 2026 – June 2026

- Built an automated test file generation system, improving testing efficiency across teams by ~50% and reducing manual effort by ~90%.
- Delivered L2 support for enterprise UiPath bots and contributed reusable libraries to standardize and accelerate future deliveries.
- Built a triaging agent for failed production RPA transactions. It automatically restarted ~30% of recoverable failures and analysed logs and environment state to generate root cause information for developers.

Data Analyst Intern, National Informatics Centre - New Delhi

June 2024 – July 2024

- Automated ETL and data processing pipelines in Python and SQL, reducing manual workload by 20%.
- Built prototype dashboards via Power BI for predictive analytics, integrating early-anomaly warning mechanisms for KPI deviations.

PATENTS & PUBLICATIONS

- Wearable Assistive Smart Glass for Visual and Hearing Impairments** - Indian Patent Application No. 202641058862 (Published May 2026, grant pending)

PROJECTS

Donna OS - Hyper-Modular Agentic Operating System

Tools Used: Next.js, React, TypeScript, Python, Firebase, Google Gemini | github.com/azrael-2704/donna

- Made LLM-generated code safe to run and self-recovering, adding only ~45ms of review overhead, blocking 12 of 12 destructive test commands, and auto-repairing 5 of 5 runtime failures, by building a Docker sandbox gated by AST/regex rules and an LLM safety-review agent, plus a loop that feeds stack traces to a repair agent.
- Made every agent decision auditable, with routing as fast as ~12ms and ~\$0.001 per reasoning step, by building a DAG-routed multi-agent pipeline that logs latency, cost, and confidence per step to Firestore.
- Removed the need for a vector database, with ~48ms retrieval compared to a ~210ms vector-DB baseline, by storing agent memory as linked Markdown notes and retrieving the full graph through the LLM's long context window.
- Enabled scheduled agent tasks without an external queue, with a ~157ms cold start, by running a Python worker daemon beside a Next.js server in a multi-stage Docker deployment.

VoxCare - Voice & WhatsApp AI Receptionist

Tools Used: React, TypeScript, Python FastAPI, SignalWire, Firebase, Google Gemini | github.com/azrael-2704/vox-care

- Enabled hands-free appointment booking over phone and browser, with 1200ms speech-to-speech latenc, by building a FastAPI WebSocket bridge from Twilio (8kHz μ -law) and WebRTC (16kHz PCM) into the Gemini Live native-audio API with function calling.
- Turned every patient call into a structured record clinic staff can act on, with 90% of test calls producing a complete triage note and transcript, by using Gemini to write a per-clinic triage dossier and audit trail to Firestore, then metering telemetry per clinic.
- Unified appointments, call activity, and patient records for clinic staff in real time, with changes syncing across sessions without refresh, by building a React/TypeScript dashboard with a custom calendar engine and Firestore listeners.

Chef's Cam - AI-Driven Recipe Discovery Platform

chefs-cam.vercel.app

Tools Used: Python, TypeScript, LangChain, FastAPI, PostgreSQL | github.com/azrael-2704/chefs-cam

- Independently designed, built, and deployed a cloud-hosted AI platform end-to-end - RAG pipeline and ML enrichment (LangChain, Gemini API), data preprocessing, and production hosting with no team or template to build on, cutting batch processing time by 40%.

Other Projects

Smart Glasses for Disabled - real-time YOLOv8 object detection with auditory feedback for accessibility (patent above) - github.com/azrael-2704/editth | **Opportune: JobMate** - NLP resume parser (95% accuracy) - opportunity-jobmate.streamlit.app

SKILLS

Automation & Agentic Systems: RAG • LangChain • Agentic Architecture • LangGraph • Prompt Engineering • UiPath Automation

ML / DL: TensorFlow • PyTorch • scikit-learn • OpenCV • NLP • Model Tuning

Backend, Data & Real-Time Systems: FastAPI • REST APIs • GraphQL • WebSockets • Twilio • Firebase/Firestore • PostgreSQL • MySQL • Neo4j • NoSQL • SQL • Multi-tenant Architecture • RBAC • Sandboxed Execution • ETL • Pandas • NumPy

Languages & Infra: Python • C++ • Java • AWS • Docker • Firebase • Linux • Git

Soft Skills: Leadership • Analytical Thinking • Teamwork • Problem Solving • Communication • Critical Thinking • Initiative • Adaptability

EDUCATION

Vellore Institute of Technology, Chennai

2022 – 2026

B.Tech, CSE (AI and Robotics) | CGPA: 8.75/10 | Founder, "Fraternity of Leaders" student leadership initiative