DHANUSHRAGAV SHANMUGAM

Associate AI Engineer · Forward Deployed Engineer · Pune, India

er.dhanushragav2022@gmail.com | +91 75983 35913 | linkedin.com/in/dhanushragav | github.com/S-Dhanushragav

SUMMARY

AI engineer who builds production AI systems for India's welfare sector and works directly with the people who use them. At Haqdarshak I build voice-enabled, multi-agent assistants for field workers and citizens, and own each one from field research and API design to deployment on GCP and automated evaluation. I work across the stack with Python, FastAPI, React and SQL, alongside Google ADK, A2A, RAG and fine-tuning on Vertex AI.

WORK EXPERIENCE

Haqdarshak Empowerment Solutions — Pune, Maharashtra

Associate AI Engineer (Forward Deployed Engineer) — Jul 2026 – Present

AI Engineer Intern — Aug 2025 – Jun 2026

HD Saathi — *voice-enabled AI assistant for field workers* — May 2026 – Present

- Proposed HD Saathi as an in-house alternative to a vendor's chatbot, met field workers to learn where they get stuck, and turned their feedback into the API design and a data model across Fire-store and MySQL.
- Built it end to end as the sole developer, with an HTML, CSS and JavaScript frontend and FastAPI services written in Python and SQL on the company database, deployed on GCP.
- Designed a three-agent A2A system with search tools that teaches schemes, runs adaptive assessments, answers voice questions on the spot and resumes training where each worker left off, using RAG over 5,000 active scheme records and a database of app data and FAQs.
- Replaced manual Python checks with a 186-case eval suite on Google ADK that pairs an LLM judge with code checks for reply language, session state and Aadhaar/PAN leaks. 97% of the 158 cases run so far pass.
- Tested it with 90 field workers and managers, worked their feedback into the product, and am now integrating it into HD App, Haqdarshak' s main worker app.

Proof Agent — *automated checking of field-uploaded proofs* — Oct 2026 – Present

- Extending a verification service my manager first built, which reads about 1,000 proofs a day with Gemini 2.5 Pro, matches them against MySQL records and gives each one an auditable verdict.
- Adding a new verification persona with its own extraction schemas, fuzzy matching and mandatory rule checks that send any failure to human review.

Yojana Saathi — *citizen assistant for scheme discovery and booking* — Jan – Apr 2026, Jul – Sep 2026

- Built the first 80% of the product: a master agent that routes across four sub-agents using an LLM I fine-tuned on Vertex AI, parallel search over four databases, RAG over 10,000+ policy records, a React frontend and a FastAPI backend on Cloud SQL, deployed with Docker on GCP.
- Linked the booking API to Run-DQ so eligibility is checked before every booking, used AWS S3 to show uploaded proofs and booking details, and added voice input.
- Took the product back when the consultant I had handed it to left, fixed production-test bugs with another developer, and cut response time from 15–20 seconds to 7–10 seconds with context compaction, a tuned thinking budget, caching and a cap on LLM calls.
- Evaluated it with a similar ADK suite of rubric and code checks, which it passes at 96%.

Run-DQ eligibility engine — *decision-tree model behind eligibility questions* — Sep – Dec 2025

- Tested all five Run-DQ APIs and walked through the code with the teams that own connected services, then traced a question-ordering bug: positive scores were split across child nodes but negative scores were not, so children could outscore their parent. I proposed the fix and shipped it.
- Built a conversational bot in Python that automates eligibility checks through the Run-DQ API and a custom JSON mapper.

ADM Education & Welfare Society — *Data Analyst Intern (Remote)* — Dec 2024 – Mar 2025

- Wrote Python scripts to clean and transform more than 1M rows of sales and transaction data, and used SQL for trend analysis.
- Built Power BI dashboards that replaced manual reporting for stakeholders, and was named Intern of the Month.

Orinson Technologies — *Machine Learning Intern (Remote)* — Dec 2024 – Jan 2025

- Built climate-indicator forecasting models, comparing ARIMA baselines with XG Boost and LSTM on RMSE and MAE.
- Built an NLP resume analyser that extracts candidate skills and scores them against job descriptions.

PROJECTS

Kaagaz — *voice-first document checker for welfare applications* Oct – Nov 2026

Meta Global AI Developer Hackathon, Indie Developer track · Solo · GitHub

- Building a mobile web app that reads a family's documents from one camera sweep, catches name mismatches, expired certificates and missing papers before they cause a rejection, and explains each fix by voice in Marathi or Hindi.
- Eligibility checks run as deterministic rules, not LLM calls, so every flag traces back to a document field.

Cloud-Sentinel AI — *agentic incident response for AWS* Sep 2026 – Present

Team Lead · 3 members · GitHub

- Leading a three-person team building a self-hosted system that watches AWS infrastructure, investigates incidents and proposes risk-scored fixes that run only after a person approves them.
- An orchestrator routes each alert to monitoring, security, incident and FinOps agents. The incident agent pulls metrics, logs and deploy history to find the root cause, with a hard cap on reasoning steps to control cost.
- Built on EC2, Lambda and RDS as monitored targets, CloudWatch for metrics and alarms, Event Bridge and SNS for events, SES for approval emails, and Cost Explorer with Compute Optimizer for FinOps.

Real-Time AI Sales Call Assistant — *Infosys Springboard Virtual Internship 6.0* Aug – Oct 2025

Team Lead · 5 members · Whisper API, Gemini, LangChain, Google Sheets · GitHub

- Led the team through architecture, weekly sprints and testing, and delivered ahead of schedule.
- Built live call transcription, real-time sentiment and next-question suggestions, Gemini post-call summaries, and automatic CRM logging to Google Sheets.

Resume AI — *resume and job-description matcher* Jan – Apr 2025

React, FastAPI, spaCy, PostgreSQL, Docker, Jenkins · GitHub

- Built a full-stack resume checker that extracts keywords with spaCy, matches them against job profiles and gives real-time feedback.
- Set up CI/CD with Jenkins and GitHub webhooks, with data in PostgreSQL and services running in Docker.

Persona-Gen — *AI character image generator* Jun 2025

ComfyUI, SDXL, LoRA, PyTorch · GitHub

- Built a ComfyUI workflow that turns text prompts into character images, using LoRA models to keep each character's identity consistent.
- Added style transfer so the same character can be rendered in different visual styles.

SKILLS

AI & LLMs: Google ADK, A2A, MCP, LangChain, Lang-Graph, RAG, FAISS, fine-tuning on Vertex AI, Gemini, prompt caching, context compaction, LLM evals, speech-to-text

Backend & Frontend: Python, FastAPI, Django, REST APIs, SQL, React, JavaScript, HTML/CSS, Java

Data: MySQL, PostgreSQL, Cloud SQL, Fire-store, Pandas, NumPy, Scikit-learn, Power BI

Cloud & DevOps: GCP (Vertex AI, Cloud Run, Fine tuning, Fire-store, Cloud SQL), AWS (S3, Lambda, RDS, CloudWatch), Docker, Jenkins, GitHub Actions, Git

EDUCATION

Lovely Professional University — B. Tech, CSE (Data Science & Machine Learning) Aug 2022 – Jun 2026

CERTIFICATIONS

Google Cloud Generative AI Leader (valid until May 2029)	IBM DevOps and Software Engineering Professional Certificate
Google Advanced Data Analytics Professional Certificate	Google 5-Day AI Agents Course
Principles of Generative AI, Infosys Springboard	IBM Python for Data Science, AI & Development
Machine Learning and Generative AI Workshops, IIT Roorkee	Google Cloud Technical Series: AI in Action

ACHIEVEMENTS

Rajya Puraskar (Bharat Scouts and Guides) · 500+ LeetCode problems solved · 2nd place, ONE India & One World 2025

LANGUAGES

Tamil (Native) · English (Full Professional) · Hindi (Professional Working) · Telugu (Limited Working)