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AI Engineer | Generative AI | Automation

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Professional Summary

AI Engineer with 5 years of experience building production-ready Generative AI, LLM, RAG, agentic workflow, and software engineering solutions for enterprise use cases. Hands-on expertise in Python, FastAPI, embeddings, vector search, ChromaDB, LangChain, LangGraph, Model Context Protocol (MCP), Microsoft Azure, and distributed systems. Proven record of translating ambiguous operational problems into scalable AI applications for test intelligence, classification, workflow automation, and knowledge retrieval, delivering more than \$400,000 in annual savings.

Experience

• Consultant

Oct 2024 – Present

Generative AI, Automation and Software Engineering

Capgemini Technology Services Ltd.

- Designed and deployed long-running **agentic AI workflows** using **Azure Durable Functions**, applying stateful orchestration and cloud-native engineering practices for enterprise applications.
- Built a local **RAG pipeline** with **ChromaDB** and embedding models, using token compaction, context management, **LangChain**, and **LangGraph** to improve retrieval quality, tool accuracy, and workflow reliability.
- Developed a **Generative AI QE platform** with **FastAPI**, **React**, and **Azure** for end-to-end test case and Robot Framework template generation, regression suite optimization, and VS Code integration, saving **\$400,000 annually**.
- Implemented a **Model Context Protocol (MCP) server** exposing Azure and testing tools for LLM-powered workflows, including XPath generation, manual test retrieval, and test case transformation.
- Built an **Automation Intelligence MCP Server** providing repository-aware retrieval for large automation codebases. Enabled agents to find related keywords, identify existing automation, select integration points, and generate test-combination suggestions while reducing context-token usage.
- Architected **R.A.C.E. (Report Classification & Analysis Engine)**, a centralized automation reporting and failure-classification platform using **Next.js**, **FastAPI**, **Python**, **embeddings**, and **Celery**. Classified failures, tracked test case health, correlated bugs across environments, and monitored defect leakage to production, saving **QEs 4 hours per execution cycle**.
- Integrated R.A.C.E. with a self-hosted **Healenium** instance to manage locator self-healing from one platform, reducing maintenance costs by **\$14,000 annually**; deployed the solution in **OpenShift** clusters.
- Added an AI-assisted remediation workflow to R.A.C.E. that creates a session with the **GitHub Copilot cloud agent** to fix automation defects and open a pull request for review.
- Built **Standup Launchpad**, a full-stack application with a frontend, backend, and transcript-processing engine. Used rules and semantic processing to isolate speech, filter noise, perform initial classification, and pass structured content to Generative AI for summarization and Azure DevOps card mapping.
- Independently developed a self-hosted, distributed **Appium mobile cloud** with a centralized entry node, scalable device-hosting instances, Appium plugins, and a custom frontend and CLI; rollout to retail clients is planned for the next quarter.
- Led a team of **4 engineers**, mentored interns, conducted L2/L3 technical interviews, reviewed technical work, and guided Generative AI and automation delivery.

• Associate Consultant

Oct 2023 – Oct 2024

Automation Engineering and Cloud Testing

Capgemini Technology Services Ltd.

- Designed reusable **Python and Robot Framework automation libraries** for payment API and log validation, reducing regression cycle time by **90%** and saving **\$94,000 annually**.
- Automated regression execution triggered by feature changes and deployed scalable test environments in **OpenShift**, improving repeatability of enterprise testing workflows.
- Built REST and reporting integrations that automatically publish Robot Framework results to **Azure Test Plan**.
- Conducted Python training and knowledge-sharing sessions across multiple teams, translating complex automation practices into maintainable engineering solutions.

• Senior Analyst

Nov 2022 – Oct 2023

Test Automation and Data Validation

Capgemini Technology Services Ltd.

- Developed **computer vision and image-recognition frameworks** for POS terminal testing, applying machine learning concepts to software-hardware validation.
- Created a Robot Framework library for testing **Azure Databricks** and optimized reporting refresh time from **14 hours to 30 minutes**.
- Implemented live execution reporting and data-validation utilities to improve observability of automation runs.

• Analyst

Sep 2021 – Nov 2022

Test Automation and Embedded QA

Capgemini Technology Services Ltd.

- Automated POS terminal health checks, reducing weekly execution time from **2 days to 10 minutes**.
- Implemented Zebra device scan automation, achieving **100% automation** of the manual test suite.
- Created custom Robot Framework report generation that reduced analysis effort by **90%**.

Projects

- **R.A.C.E. Automation Intelligence Platform:** Centralized reporting, classification, test-health, defect-tracking, and AI-assisted remediation platform using Python, FastAPI, Next.js, ChromaDB, embeddings, Celery, and GitHub Copilot cloud-agent integration.
- **Enterprise GenAI Test Intelligence Platform:** LLM-powered end-to-end test generation, regression optimization, repository intelligence, and VS Code workflows using Azure, FastAPI, React, and MCP.
- **Distributed Appium Mobile Cloud:** Self-hosted device cloud with centralized routing and horizontally scalable device-hosting instances for distributed mobile test execution.
- **AI-Assisted Resume Tailoring System:** LLM-based application that analyzes job descriptions and adapts resume content for relevance and ATS optimization.
- **Identical Twin Recognition:** Machine learning techniques using transformers, Golden Ratio features, and geodesic distances to distinguish identical twins; patent pending.

Technical Skills

AI and Generative AI: LLMs, Generative AI, prompt engineering, RAG, embeddings, vector search, ChromaDB, AI agents, agentic workflows, MCP, few-shot classification, information extraction, computer vision, transformers

AI Orchestration: LangChain, LangGraph, context management, token compaction, tool calling, retrieval quality, accuracy and reliability optimization

Backend and Data: Python, FastAPI, REST APIs, microservices, PostgreSQL, SQL, Azure Cosmos DB, Celery, RabbitMQ, distributed processing

Cloud and DevOps: Microsoft Azure, Azure Function Apps, Durable Functions, OpenShift, Kubernetes, Docker, Git, Jenkins, CI/CD, Linux, production deployment

Frontend and Testing: React, Next.js, TypeScript, Robot Framework, Selenium, Pytest, Appium, API testing, system testing, automated evaluation, test reporting

Education

• B.Tech in Computer Science

Srinivas Institute of Technology, Mangalore

2017 – 2021

Certifications and Achievements

Microsoft Certified: Azure Fundamentals

Winner: GenAI Hackathon (Capgemini)

Awards: FireFighter Award; 10x Kaizen Certificates; Top 6, Capgemini Ideathon for GroceryGO AR Navigation App

Business Impact: Delivered process improvements and frameworks saving over **\$250,000 annually**