

KARTHIK Y

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Generative AI Engineer | LLM Prompt Engineer | AI Agent Developer

PROFESSIONAL SUMMARY

Generative AI Engineer specializing in LLM agents, prompt engineering, and multimodal systems (text • speech • image). 2+ years in GenAI and 5+ years in QA automation. Designs reliable prompting strategies, evaluation pipelines, and production deployments with LangChain, Azure OpenAI, Vertex AI, and Hugging Face to deliver measurable impact.

SKILLS & TOOLS

LLMs & Frameworks: GPT-4/3.5, LLaMA, PaLM, LangChain, LlamaIndex, RAG, Pinecone, FAISS

Prompt Engineering: system prompts, few-shot, prompt chaining, tool/function calling, hallucination reduction, bias controls

Evaluation & QA: BLEU, ROUGE, Perplexity, scenario tests, red-teaming, automated eval pipelines

Multimodal: Whisper (STT), DALL·E, ElevenLabs, Runway ML, Pika Labs

Programming: Python, Java, JavaScript (Node/React), SQL

QA Automation: Selenium, REST Assured, Postman, TestNG, JUnit, Cucumber

Cloud & DevOps: Vertex AI, Azure OpenAI, AWS, GCP, Jenkins, Docker, Git

PROJECTS — AI AGENTS

Code-to-Natural-Language Explainer — AI Code Interpreter Agent

[GitHub link](#)

- Built an AI agent that reads source code and produces structured English explanations (function roles, logic flow, edge-case handling).

- Supports Python, JavaScript, Java, C++, SQL with dynamic language-aware prompting and safe context windowing.
- Improved explanation accuracy by ~35% using prompt templates, chaining, and token optimization.

AI Test Automation Framework — FRS → Test Cases → Selenium Execution

[Github link](#)

- Converts Functional Requirement Specifications into structured test cases using LLM + rule-based validation.
- Executes generated steps via Selenium; exports CSV reports with pass/fail and AI failure reasoning.
- Reduced regression test design and execution time by ~80% across target web apps.

AI Weather Agent — Voice + Auto UI Personalization

[Github link](#)

- Streamlit app with auto-location, TTS announcements, and Open-Meteo integration; responsive UI with dynamic Unsplash backgrounds.
- Plotly visualizations for daily/weekly trends; caching and exception handling for performance and resilience.
- Deployed end-to-end on Streamlit Cloud with GitHub-based CI/CD.

PROFESSIONAL EXPERIENCE

Generative AI Prompt Engineer — Health Care Service Corporation (Chicago, IL)

Jan 2024 – Present

- Designed system prompts and chaining flows that improved response accuracy by ~30% and reduced hallucinations in clinical support tasks.
- Built automated LLM evaluation (LangChain + LlamaIndex) with BLEU/ROUGE/Perplexity scoring; cut manual review by ~40%.
- Performed safety, bias, and compliance checks to meet SOC2 requirements for healthcare GenAI workflows.
- Deployed/monitored LLM microservices on Vertex AI; improved uptime and rollback controls, reducing downtime by ~25%.
- Delivered multimodal agents using Whisper (STT) and DALL·E for documentation and visual content automation.

QA Automation Engineer — Wells Fargo (Chicago, IL)

Nov 2022 – Sep 2024

- Automated UI + API regression (Selenium, Python, REST Assured) reducing manual QA hours by ~35% per sprint.
- Standardized a reusable BDD framework (Cucumber, TestNG, JUnit) increasing automation coverage to ~95%.
- Integrated suites with Jenkins CI/CD (nightly runs, dashboards) reducing defect leakage by ~20%.
- Mentored junior SDETs; improved team throughput by ~15%.

QA Automation Engineer — 1 Billion Tech Pvt Ltd (Chennai, India)

Jun 2015 – Oct 2017

- Achieved ~98% pre-release defect detection via hybrid (UI/API/DB) automation.
- Implemented Page Object Model reducing maintenance time by ~25%.
- Improved SQL-based data validation accuracy by ~30% for critical transactions.

CERTIFICATIONS

- **Build Website with AI – Simplilearn** (ID: 8784780) — Practical training in AI-powered website generation, no-code platforms (Wix, Webflow, Shopify), AI-assisted UI/UX, and chatbot integration.
- **Introduction to Generative AI & Prompt Engineering – Cloud Security Alliance** (ID: f5587cexa8iv) — Focused on prompt design, leveraging LLMs for automation, content generation, and real-world business applications.
- **Prompt Engineering Applications – Simplilearn** (ID: 8778799) — Prompt optimization for LLMs; applying GenAI to enterprise solutions and response quality improvement.
- **Software Testing with Generative AI – Simplilearn** (ID: 8777114) — Hands-on coverage of AI in software testing, LLM-assisted test automation, defect detection, and AI-powered QA workflows.

EDUCATION

Master of Computer Science — Governors State University, Chicago, IL (2022)

Master of Information Technology — Central Queensland University, Sydney, Australia (2020)