

Nakshatra Kaushik

AI Automation — Generative AI — Prompt Engineering — AIoT Engineer

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Portfolio: nakshatrak19portfolio.vercel.app

Professional Summary

Electronics and Communication Engineering undergraduate with a strong foundation in Generative AI, intelligent systems, and AI automation. Experienced in architecting LLM-driven workflows, agentic AI, and edge AI solutions through hands-on technical projects and industry certifications. Adept at bridging the gap between embedded hardware and modern cloud AI frameworks. Passionate about engineering practical, scalable automation pipelines and continuously adapting to emerging AI technologies.

Work Experience

AssignIt AI

May 2026 – Present

Founder & Lead Engineer

- Architecting a multi-tenant B2B SaaS timetabling platform from the ground up using Python, React, and PostgreSQL.
- Designing complex relational database schemas and highly concurrent REST APIs to automate academic scheduling.
- Integrating Claude AI to dynamically resolve resource conflicts and enforce complex constraint-based scheduling rules.

Projects

AI-Powered Browser Automation Agent

[Live Link](#)

Generative AI & Web Automation

- Engineered an autonomous web automation agent utilizing Claude Sonnet 4.6 and Python to execute complex, multi-step browser tasks.
- Integrated Selenium and the Browser Agent API to enable dynamic web element interaction and robust data extraction.
- Deployed the highly responsive web application on Vercel, ensuring high availability and seamless user accessibility.

Database Query Agent with Natural Language Interface

[Live Link](#)

LLMs & Database Optimization

- Developed an intelligent natural language-to-SQL interface for MongoDB, leveraging Hugging Face Transformers and Python.
- Implemented the Microsoft Database Agent with advanced query optimization techniques to accelerate data retrieval workflows.
- Containerized the end-to-end application using Docker Desktop and delivered an interactive frontend interface via Streamlit.

Automated Email Outreach Pipeline

Workflow Automation & APIs

- Automated personalized recruiter outreach workflows by integrating n8n, Google Sheets, and Apollo.io via REST APIs.
- Implemented the Gemini LLM to generate context-aware, tailored email copy based on target company profiles and job descriptions.

Speech-to-Text Telemetry System

Audio Processing & Monitoring

- Built a robust speech recognition pipeline integrating OpenVoice for high-accuracy audio transcription and NLP analysis.
- Implemented advanced telemetry and monitoring using Langfuse to track performance metrics and optimize inference latency.

ESP32 Energy Consumption Monitor & Predictor

IoT Development & Machine Learning (Under Development)

- Engineering an IoT energy tracking system utilizing an ESP32 alongside voltage (ZMPT101B) and current (ACS712) sensors for real-time power telemetry.
- Developing a Python desktop client using Tkinter that interfaces with the ESP32 via HTTP REST endpoints to fetch, parse, and locally log continuous sensor data.
- Implementing an Extra Trees Regressor model utilizing scikit-learn and pandas to analyze historical energy patterns and forecast future utility bills.

Secure Data Erasure Utility

Smart India Hackathon 2026 College Finalist

Software Engineering & Security

- Developed a secure disk sanitization utility utilizing advanced algorithms to ensure complete and unrecoverable data destruction.

IoT Rain-Sensing Wiper System

Embedded Systems & Sensors

- Built an autonomous environmental response system using an Arduino UNO and microcontrollers to optimize vehicle safety.

Skills

Generative AI & LLMs: Claude, Hugging Face, OpenAI Ecosystem, Amazon Nova, Ollama, Odysseus, Prompt Engineering

AI Automation & Agents: Agentic AI, n8n, Workflow Automation, Microsoft Database Agent, Browser Agent API

Cloud & AI Platforms: AWS SageMaker, Azure AI, AWS Generative AI Services, Azure AI Agents

Programming Languages: Python, C++, C, JavaScript, SQL

Databases & DevOps: MongoDB, PostgreSQL, MySQL, Docker Desktop, Git

Edge AI & Embedded Systems: Edge Impulse, Qualcomm AI Hub, TinyML, NVIDIA NeMo, Arduino, IoT Development, Microcontrollers, Digital Signal Processing (DSP)

Tools & Frameworks: Selenium, REST APIs, Langfuse, VSCode

Education

B.Tech in Electronics and Communication Engineering

2023 – 2027

ABES Engineering College, Ghaziabad

Class XII (PCM with CS)

Completed in 2023

Bal Bharati Public School, Noida