

Spandan Mukherjee

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EXPERIENCE

Software Developer - Patronus

March 2026 - Present

- Built and deployed ETL pipelines on AWS EC2 (Python) to standardize data from 112 organizational sources, eliminating significant manual processing overhead.
- Processed and normalized 10 years (2015–2024) of large-scale institutional educational data across CSV formats; engineered field mappings for nested ZIP archives containing 11 CSVs each, with benchmark validation checks to ensure accuracy.
- Engineered a 3-layer PDF extraction pipeline using Docling and Gemma4 (via DeepInfra) to parse complex tables, malformed cells, and inconsistent layouts from large institutional research documents.
- Developed the core internal platform on Azure VMs for composing workflows from scratch over available internal tools, with Docker-containerized one-click deployment converting single or chained flows into production full-stack applications, plus an integrated AI code generator serving live, shareable previews with user-configurable access and usage limits.
- Instrumented platform-wide LLM usage and cost tracing with benchmark comparisons across multiple models, and shipped a bring your own model app letting users register any model and make it production-ready as an AI backend.
- Engineered a custom meeting bot from scratch that joins Google Meet sessions reliably without being flagged as a potential risk by the platform.

Software Developer Intern - Cerebrone AI

October 2025 – March 2026

- Built stateful AI systems with MCP Servers, Hybrid RAG, A2A Agents SDK, LangGraph, and Mem0/OpenMemory.
- Refactored a production Vue.js and FastAPI client system deployed on Azure.
- Integrated Langfuse for LLM tracing/evaluation; resolved Jira tickets on Django and Next.js projects.

Full Stack Developer Intern - Cosverse AI (formerly Lumio-AI)

September 2025 – November 2025

- Built backend scripts for data migration and image generation model integration via Imagen pipelines on Azure and OpenRouter.
- Streamlined blob storage and session management, reducing frontend load and improving platform response.
- Worked with Web Scraping MCP outputs for data pipeline workflows.

Developer Advocate - Quira

September 2024 – February 2025

- Produced tutorials and sample projects to streamline developer onboarding and product adoption.
- Hosted virtual developer events and gathered user feedback to improve product UX and community engagement.

EDUCATION

Vellore Institute of Technology, Chennai

Chennai, India

B.Tech in Computer Science and Engineering, CGPA: 8.38/10

Sept 2021 – Sept 2025

St. Paul's H S School, Indore

Indore, India

Class XII: PCM with Physical Education, Percentage: 89.2%

Apr 2020 – Apr 2021

PROJECTS

SharkTank GPT

LangGraph, Groq, Streamlit, Python, Random Forest

AI pitch analyzer using Shark Tank datasets across multiple regions.

- Built LangGraph workflow with 8 agents for industry insights, shark profiling, and success prediction.
- Deployed Random Forest for real-time pitch scoring and investment recommendations.

AI-Arena

Next.js, Kestra, WebSockets, Groq LLMs, Database, Docker

Adversarial AI simulation platform for evaluating agent reasoning and robustness.

- Built a full-stack system enabling real-time multi-agent AI matches (Red Team and Blue Team) with live state updates.
- Implemented LLM integrations and core APIs for agent orchestration and performance evaluation.

DataViz

Next.js, TypeScript, Tambo, Jupyter MCP, Docker, Astro(docs)

Conversational generative UI analytics app for natural language data exploration.

- Enabled dataset uploads with AI-generated visualizations, SQL, and runnable Python via natural language.
- Containerized Jupyter MCP runtime with Docker; deployed docs on Vercel.

SKILLS

Languages: Python, JavaScript, TypeScript, Java, C/C++, SQL

Frontend: React.js, Next.js, Astro, HTML5, CSS3, Tailwind, Redux, Tanstack, Electron

Backend: Node.js, Express.js, Django, Flask, FastAPI,

Databases: MongoDB, PostgreSQL, MySQL, GraphQL, Firebase, Supabase, Neo4j, Appwrite

Cloud & DevOps: AWS, Azure, Google Cloud, Docker, Kubernetes, Ansible, CI/CD, Linux, Vercel

Gen AI: RAGs, Model Fine-tuning, Prompt Engineering, NLP, Transformers, Hugging Face, LlamaIndex, Langgraph, Langfuse, Ollama, Mem0, Pinecone, ChromaDB, FAISS, A2A framework, Open Claw

Tools & SDKs: Git, Postman, Ngrok, Jira, Kestra, Motia, DeepInfra, Jupyter, Serper, Exa, Parallel AI

POSITIONS OF RESPONSIBILITY

Leadership: Moderator at Push Protocol · Tech Ambassador at Nordek · Mentor at GirlScript Summer of Code 2024 · Hackathon Judge ×4