

Subhash Chandra Adak

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EXPERIENCE

Software Engineer

Nov. 2025 – Present

Kolkata

Brainium Information Technologies Pvt. Ltd

- Developed a tool-based RAG application using FastAPI, Vertex AI, and Pinecone, implementing vector embedding and retrieval pipelines to enable accurate conversational search over invoices, past orders, and product data.
- Built and trained a TensorFlow model to identify incorrect or fraudulent invoices, supporting automated validation and reducing manual review effort.

Jr. Software Developer

Aug. 2024 – Oct. 2025

Kolkata

EBIW Info Analytics Pvt. Ltd

- Engineered a secure and scalable backend system to perform fuzzy record matching on 30M+ records in Google BigQuery using Jaro-Winkler, Metaphone3, and Levenshtein distance, achieving high-precision entity resolution with sub-10s response time. Designed RESTful APIs with Basic Authentication to ensure secure and controlled access across integrated services.
- Developed a smart web crawler with dynamic scrolling and document scraping using Python, Playwright, and BeautifulSoup, enhanced with AI-based data querying and dataset preparation.
- Developed an automated trending content generation system using n8n workflow automation tool, improving content discovery and user engagement.
- Built backend infrastructure for an affiliate marketing platform using Python, FastAPI and MongoDB, enabling seamless tracking and processing of affiliate transactions.

PROJECTS

School ERP Platform | Python, Flask, MySQL, React, SMTP

Mar. 2024 – Jun. 2024

- Built a centralized School ERP platform for end-to-end management of academics, finance, library, and communication workflows.
- Implemented barcode-based library operations, automated email notifications, dynamic fee calculations, and secure role-based access control.
- System currently serves over 3,500 students annually and manages 20,000+ library records, improving efficiency across all school operations.

Real-time Voice Assistant | OpenAI Realtime API, WebSocket, Python

Jan. 2025 – Mar. 2025

- Architected voice assistant using OpenAI Realtime API achieving sub-300ms latency for natural speech-to-speech conversations with WebSocket connections and automatic interruption handling.
- Integrated function calling and context-aware responses with 92% accuracy, optimizing audio processing with custom VAD algorithms for enterprise reliability.
- Deployed a production-grade real-time audio streaming system with effective noise cancellation.

TECHNICAL SKILLS

Languages : Python, Java, JavaScript

Frameworks : LangChain, FastAPI, Phidata, CrewAI, Flask, Selenium

Libraries : NumPy, Pandas, Scikit-learn, Matplotlib, Hugging Face

Database : MySQL, MongoDB

Vector Databases : Pinecone, Faiss, ChromaDB

Cloud Platforms : Google Cloud Platform (Vertex AI, BigQuery, Cloud Run, Cloud Storage, IAM)

Other Skills : NLP, Multi-Agent Systems, Prompt Engineering, Agentic RAG, MCP, Git, Docker

EDUCATION

Sikkim Manipal University

Sikkim

Master of Computer Applications

Aug. 2025 – Present

Kharagpur College

Kharagpur

Bachelor of Computer Applications

Sep. 2021 – Aug. 2024

CERTIFICATIONS

- I. Generative AI Professional (1Z0-1127-25) by Oracle II. Diploma in Computer Application (DCA)