

SAMRIDHI MUKHOPADHYAY

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Education

Indian Institute of Information Technology, Kalyani

BTech in Computer Science and Engineering
CGPA:8.83

Aug 2023 - May 2027

Kalyani, West Bengal

Relevant Coursework

Data Structures Algorithm Analysis Artificial Intelligence Computer Organization
Compiler Design Database Management Systems Operating Systems

Projects

Enterprise AI SQL Copilot | Python, LangChain, SQLite, Streamlit, Google Gemini API

- Engineered an autonomous SQL Agent using LangChain and Google Gemini to dynamically translate natural language questions into complex, executable database queries for real-time analytics.
- Migrated unstructured flat-file datasets into a relational SQLite database, optimizing the schema architecture to support efficient, structured backend querying.
- Developed a responsive, custom-styled web interface using Streamlit, featuring conversational memory, drag-and-drop PDF text extraction, and an API-independent fallback data dashboard.
- Authored deployment shell scripts and comprehensive technical documentation to establish a production-ready, highly maintainable GitHub repository.

Mini-Exchange Protocol (Full-Stack Web App) | Python, FastAPI, React, SQLite

- Architected a full-stack financial exchange simulator utilizing React and FastAPI to process mock cryptocurrency trades with real-time UI updates.
- Engineered a secure SQLite relational database via SQLAlchemy ORM, strictly enforcing ACID compliance to ensure zero data loss or duplication during buy/sell operations.
- Designed a RESTful API bridging the frontend and Python backend, managing cross-origin resource sharing (CORS) and asynchronous state management without page reloads.
- Developed a responsive, dark-mode trading dashboard using Tailwind CSS v4, providing a production-ready interface for portfolio monitoring.

MediSense – AI Healthcare Platform | Python, Streamlit, ML, OpenCV

- Built an AI-based symptom checker for preliminary disease diagnosis and treatment suggestions.
- Implemented sign-language recognition using OpenCV to improve accessibility.
- Integrated an AI medical chatbot (Doctor Pulse) for personalized health guidance.
- Designed a clean Streamlit interface for easy and inclusive user interaction.

Technical Skills

Languages: C, C++, Java, Python, JavaScript, HTML, CSS, SQL

Developer Tools: Git, GitHub, VS Code, Node.js, npm, Postman, Figma, Linux

Technologies & Frameworks: LangChain, Streamlit, OpenCV, SQLite, Pandas, REST APIs, Vector DBs (FAISS/Chroma)

Leadership/Extracurricular

- Women in Tech Lead @GDG IIIT Kalyani
- Organizer at StatusCode2 by MLH
- Core Team Member @Freescape IIIT Kalyani
- Finalist @SIH'23 by Govt of India