SOURAJIT MAJUMDER

+91-9007876490 | sourajitm19@gmail.com
linkedin.com/in/sourajit-majumder | github.com/Sourajit-M

EDUCATION

Narula Institute of Technology **2023 – 2027**
B.Tech in Computer Science Engineering (AI & ML) CGPA: 8.51/10.0
Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Machine Learning, Artificial Intelligence, Database Management Systems

St. Augustine's Day School, Barrackpore (ISC) **2023**
Higher Secondary (Grade 12): 94%

St. Augustine's Day School, Barrackpore (ISC) **2021**
Secondary (Grade 10): 90%

CERTIFICATIONS

Certified System Administrator (CSA) – ServiceNow **Issued: June 2026**

PROJECTS

Glaucoma Detection System — Deep Learning, Computer Vision **2026**
github.com/Sourajit-M/glaucoma-detection-project | Live Demo

- Built AI based Glaucoma detection system using **ResNet-18** and **U-Net** with an AUC of **94.5%** and accuracy of **87.1%** which outperforming the strongest classical baseline (**SVM, 78.9% AUC**) by **15.6 percentage points**.
- Designed end-to-end ML pipeline comprising of image pre-processing, data augmentation, model training, **Grad-CAM** explainability and deployment as a real-time inference API.
- **Technologies Used:** Python, PyTorch, ResNet-18, U-Net, Grad-CAM, scikit-learn, OpenCV

YouTube Semantic Intelligence & Search Engine **2025**
github.com/Sourajit-M/youtube-semantic-search | Live Demo

- Built an automated pipeline for ingestion, chunking and indexing of YouTube video transcripts, to support a grounded Q&A engine that answers with exact source citations.
- Implemented a hybrid retrieval system (**BM25 + semantic search with RRF reranking**), reducing irrelevant/incorrect retrievals by approximately **40%** versus keyword-only search.
- **Technologies Used:** Python, FastAPI, ChromaDB, LiteLLM, SQLite, React

Local AI Inference Platform — (FastAPI, React, Ollama) **2026**
github.com/Sourajit-M/local-ai-inference-platform | Live Demo

- Developed a local AI inference platform for fully offline SLM execution, with JWT authentication, persistent chat sessions, structured generation, and experiment tracking.
- Built a benchmarking framework evaluating Qwen 2.5 3B, Llama 3.2 3B, and Phi-3 Mini on consumer hardware (**RTX 4050, 4GB VRAM**); optimized champion model (**Qwen 2.5 3B**) achieved **0.81s TTFT** and **40.17 tok/s** throughput, visualized via a React analytics dashboard.
- **Technologies Used:** Python, FastAPI, TypeScript, Ollama, SQLite, Pydantic, JWT

TECHNICAL SKILLS

Languages: Java, Python, JavaScript
AI / ML & Computer Vision: scikit-learn, LangChain, LangGraph, RAG, ChromaDB
Web & Backend: FastAPI, Node.js, Express.js, REST API, MongoDB, PostgreSQL
Tools & Platforms: Git, GitHub, Docker
Core CS: Data Structures & Algorithms, OOP, System Design Fundamentals

ACHIEVEMENTS & EXTRACURRICULARS

- **LeetCode:** Solved 450+ problems spanning dynamic programming, graphs, trees, and binary search.
- **Certification:** Completed Full Stack Web Development (100xDevs) – React, Node.js, PostgreSQL, and system design fundamentals.
- Participated in Smart India Internal Hackathon (SIH) 2025 and worked with a team to design and build a working AI-based prototype within a fixed hackathon timeline.