Aviroop Mitra

aviroopmitra5@gmail.com | +91 79809 58951 | India | LinkedIn | GitHub

PROFESSIONAL EXPERIENCE

Neurologic-ai | Machine Learning Intern *Nov, 2023 – Jul, 2025*

> Intelligent Claim Orchestration in Guideware | Skan AI *May – Jun, 2025*
>
> Automated claim creation and assignment in ***Guidewire ClaimCenter*** with a vision-to-reasoning pipeline that pairs ***GPT-4 Vision/Text*** (async ***Python***, prompt-engineered with token-cost guardrails) and a hierarchical scorer operating on a 30-event window. Delivered ***80%*** confidence (+***23 pts*** over benchmark) and ***halved inference latency***.

> Document Intelligence Platform | Carelon Health *Mar – May, 2025*
>
> ***Streamlit***-based interface drives a PDF-to-image flow where a ***layout-transformer*** isolates semantic zones; cropped sections are passed to async ***GPT-4 Vision*** (backed by ***Mistral OCR*** and ***Python imaging***) and rendered with ***Pandas***. The generalized architecture now ingests diverse healthcare documents and keeps end-to-end latency under ***3s*** without sacrificing accuracy.

PwC India | Advisory Intern *Jun – Jul, 2024*

> Full-Stack Ticket Platform *Jun – Jul, 2024*
>
> ***Angular*** + ***Spring Boot*** + ***MongoDB*** stack with ***JWT***-secured role-based access. Provides a real-time ticket dashboard, template creation/search, appraisal & query threads, and an animated UI—while keeping CRUD latency under ***50 ms***. An ***API Gateway*** and client-side ***service discovery*** route traffic to horizontally duplicated ticket and auth services for effortless scale-out.

EDUCATION

Indian Institute of Science (IISc) | Master of Technology - MTech in Computer science and engineering *Aug, 2025 – Jul, 2027*

Jadavpur University | Bachelor of Engineering - BE (Hons.) in Computer Science and Engineering | *GPA: 8.25 (76.3%)* *Dec, 2021 – Jul, 2025*

Burdwan Municipal High School | Higher Secondary in Science | *GPA: O (93.4%)* *Jul, 2019 – Mar, 2021*

PROJECTS

CVPipeline | GitHub *Jul, 2024 – Aug, 2025*

- Developed a ***6-step*** modular pipeline with ***linkedin-api***, ***OpenAI API***, ***Google Knowledge Graph API***, ***PyGithub***, ***httpx*** and ***Playwright*** to transform LinkedIn data, enhance content, validate URLs, generate HTML, and output PDFs.
- Achieved ***100%*** URL validation coverage by performing async HTTP calls with ***httpx*** and ***Google KG multi-layer discovery***, removing broken links across ***50+*** LinkedIn profiles.
- Integrated ***SQLite***-based caching with ***24-hour TTL*** to reduce redundant ***LinkedIn***, ***GitHub***, ***Google KG***, and ***OpenAI API*** calls by ***80%***.
- Orchestrated concurrent modules—***LinkedIn fetcher***, ***JSON-Resume transformer***, ***AI processor***, ***URL validator***, ***HTML generator***, and ***Playwright PDF generator***—to deliver professional HTML and PDF resumes.

VARC_APP | GitHub *Apr, 2025*

- Implemented a ***Python Streamlit*** app selecting one daily article from The Hindu or The Telegraph based on topic probabilities of ***20%*** business and economics, ***50%*** science, environment & technology, ***20%*** art and literary criticism, and ***10%*** philosophy & sociology.
- Developed modular scrapers in app/scrapers and utility functions in app/utils to perform ***web scraping*** and ***data caching*** for ***two news sources***.
- Constructed ***Streamlit*** UI components within app/components and orchestrated the workflow in app/main.py to ensure consistent article output throughout each day.
- Configured VARC_APP structure housing app, data, and ***requirements.txt*** to streamline two-step deployment via ***pip install*** and ***streamlit run*** commands.

distributed-p2p-network | GitHub *Mar, 2025*

- Designed a distributed text processing system in ***Python 3.8*** with ***5 main nodes*** (8000-8999) for coordination, ***10 data nodes*** (9000-9999) for chunk-based storage and replication, and ***10 compute nodes*** (10000-10999) for embedding generation and similarity search.
- Implemented ***FastAPI*** on port 8000 with ***Swagger docs*** and ***Streamlit*** frontend at localhost:8501, enabling real-time management of ***25 nodes*** with ***load balancing*** and ***health monitoring***.
- Developed ***7*** modular ***Python*** components across app/api, core, frontend, models, nodes, services, and utils with ***pip-managed dependencies*** and ***management scripts*** for deployment.

SKILLS

Programming Languages: Python (Programming Language), C (Programming Language), C++, Java, JavaScript

APIs & Libraries: REST APIs, Node.js, Angular, Spring Boot, FastAPI, OpenAI API

Machine Learning & Data Science: Scikit-Learn, Pandas (Software), NumPy, Convolutional Neural Networks (CNN), Transformers, Recommender Systems

Databases & Data Storage: MySQL, MongoDB, SQL

Testing & QA: pytest

Tools & Platforms: Jupyter, PIL, Git, API Gateways, SQLAlchemy, Streamlit

AWARDS & ACHIEVEMENTS

GATE CS, 2025 | *AIR 65, 99.96 percentile* *Feb, 2025*

Senior Scholar | Jagadish Bose National Science Talent Search | *98.98 percentile* *Jul, 2022*

Junior Scholar | Jagadish Bose National Science Talent Search | *98.5 percentile* *Mar, 2020*