Aviroop Mitra

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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 – Sep, 2025*

- Designed a ***6-step pipeline*** (linkedin_fetcher->transformer->***OpenAI***_processor->url_validator->html_generator->pdf_generator) using ***linkedin-api***, ***OpenAI***, ***PyGithub***, and ***Playwright***.
- Integrated async URL validation with ***httpx*** and ***python-dotenv***, leveraging ***Google Knowledge Graph*** fallback and a ***SQLite*** cache with 24h TTL.
- Enhanced LinkedIn data with AI-driven skill filtering, experience extraction, and technical highlights via ***OpenAI API*** for consistent ***HTML*** and ***PDF*** resumes.
- Extracted GitHub project info from READMEs via ***PyGithub*** and applied centralized styling via ***scripts/config.py*** to generate ***responsive HTML*** and ***print-ready PDFs***.

VARC_APP | GitHub *Apr, 2025*

- Implemented daily article selection in ***Python*** using ***Streamlit*** with topic-based probabilities (***20%***, ***50%***, ***20%***, ***10%***).
- Developed ***web scraping*** modules for ***two sources*** (The Hindu, The Telegraph) under scrapers to fetch and cache articles in data.
- Structured the application into ***four modules*** (UI components, scrapers, utils, main.py) to separate user interface, business logic, and data caching.

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

- Developed a distributed text processing system using ***Python 3.8+*** with ***5 main nodes*** (port 8000–8999) for coordination, load balancing, and health monitoring.
- Implemented ***10 data nodes*** (port 9000–9999) with ***chunk-based storage***, ***replication***, and ***persistence*** for scalable management of text data.
- Built ***10 compute nodes*** (port ***10000–10999***) to perform ***text chunking***, ***embedding generation***, and ***semantic similarity searches*** in real time.
- Integrated ***API endpoints***, ***frontend components***, and ***scripts*** for ***automated deployment***, ***node initialization***, and ***comprehensive test coverage***.

SKILLS

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

AI & ML: Machine Learning, Large Language Models (LLM), Natural Language Processing (NLP), Convolutional Neural Networks (CNN), Transformers, Deep Learning

APIs & Libraries: REST APIs, Git, Pandas (Software), Scikit-Learn, Node.js, NumPy

Web Frameworks: Spring Boot, Angular

Databases & Data Storage: MySQL, MongoDB

Algorithms & Data Structures: Graph Theory, Object-Oriented Programming (OOP), Data Structures, Algorithms

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*