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

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*

Burdwan Town School | Secondary | *GPA: AA (95.14%)* *Jan, 2011 – Mar, 2019*

PROJECTS

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

- Implemented a ***6-step*** modular pipeline using ***LinkedIn API***, ***OpenAI API***, ***Google Knowledge Graph API***, ***PyGithub***, and ***Playwright*** to fetch, transform, AI-enhance, validate, and generate HTML and PDF resumes.
- Developed asynchronous URL validation with ***httpx*** and ***Google Knowledge Graph API*** across ***3 discovery layers*** to remove broken links.
- Integrated ***python-dotenv*** and ***requests*** for secure environment variable management and API integration across ***6*** pipeline modules.
- Generated professional, responsive ***HTML*** and print-ready ***PDF*** resumes in ***2 formats*** with configurable styling and ***Playwright***-based ***PDF*** conversion.

VARC_APP | GitHub *Apr, 2025*

- Developed a ***Streamlit*** front-end with components/ and main.py to provide a clean and intuitive UI.
- Implemented scrapers in scrapers/ modules to perform ***web scraping*** from The Hindu and The Telegraph.
- Designed a ***topic-based probability engine*** distributing ***20%*** Business and economics, ***50%*** Science, environment, and technology, ***20%*** Art and literary criticism, and ***10%*** Philosophy and sociology for daily article selection.
- Integrated ***caching*** in data/ directory and utility functions in utils/ to ensure consistent daily article retrieval.

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

- Implemented a ***Python 3.8+*** distributed text processing system with ***5 main nodes***, ***10 data nodes***, and ***10 compute nodes*** (ports ***8000-10999***) to coordinate tasks, balance load, and monitor health in real time.
- Developed chunk-based storage and data persistence across ***10 data nodes*** (***ports 9000-9999***) with replication and capacity distribution to manage text chunks at scale.
- Orchestrated ***semantic search*** and ***embedding generation*** on ***10 compute nodes*** (***ports 10000-10999***) to perform high-throughput ***similarity searches*** and ***text analysis***.
- Structured a modular architecture with api, core, frontend, models, nodes, services, and utils folders, plus scripts for node initialization, frontend launch, and automated testing across unit, integration, and frontend suites.

SKILLS

Programming Languages: Python, C++, JavaScript, Java, C

Frameworks, Libraries & Tools: Git, Node.js, Angular, Pandas (Software), NumPy, Scikit-Learn

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

Databases & Data Storage: MySQL, MongoDB, SQL

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

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*