

Aviroop Mitra

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PROFESSIONAL EXPERIENCE

Neurologic-ai | Machine Learning Intern

Nov, 2023 – Jul, 2025

Intelligent Claim Orchestration in Guidewire | 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

Jul, 2019 – Mar, 2021

Burdwan Town School | Secondary | GPA: AA

Jan, 2011 – Mar, 2019

PROJECTS

CVPipeline | [GitHub](#)

Jul, 2024 – Jul, 2025

- Implemented a **6-step** modular pipeline integrating **LinkedIn API**, **OpenAI API**, **Google Knowledge Graph API**, **PyGithub**, **httpx** and **Playwright**.
- Developed an **async** URL Validator module using **httpx** to validate **100%** of URLs and remove broken links in the pipeline.
- Enhanced content in the third AI Processor step using the **OpenAI API** for skill filtering, experience extraction and technical highlighting in **JSON-Resume** format.
- Generated responsive **HTML** and high-quality PDF resumes in **two formats** via **HTML_generator** and **pdf_generator** modules with styling from config.py.

VARC_APP | [GitHub](#)

Apr, 2025

- Implemented a **Streamlit** application with **Python web scraping** modules targeting The Hindu and The Telegraph to fetch daily articles.
- Configured topic-based probability distribution of **20%** business and economics, **50%** science and technology, **20%** art and literary criticism, and **10%** philosophy and sociology for article selection.
- Developed a clean **UI** using **app/components** and centralized logic in **main.py** within a modular **VARC_APP/app/{components,scrapers,utils}** layout.
- Structured data caching in data/ and managed dependencies via **requirements.txt** for reproducible daily article retrieval.

distributed-p2p-network | [GitHub](#)

Mar, 2025

- Developed a **Python 3.8+** distributed text processing system with **5 Main nodes** (ports **8000–8999**), **10 Data nodes** (**9000–9999**), and **10 Compute nodes** (**10000–10999**) for task coordination and load balancing.
- Implemented **chunk-based storage** and **replication** across **10 Data nodes** to ensure high availability and persistence.
- Engineered **semantic search** and **embedding generation** on **10 Compute nodes** delivering real-time text analysis.
- Integrated health monitoring on **5 Main nodes** and a **Streamlit** frontend at localhost:8501 with API docs at /docs for node management.

SKILLS

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

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

APIs & Libraries: REST APIs, OpenAI API, SQLAlchemy, Pandas (Software), NumPy, Scikit-Learn

Development Frameworks: Streamlit, FastAPI, Spring Boot, Angular, Node.js

Databases & Data Storage: MySQL, MongoDB, SQL

Tools & IDEs: Git, Jupyter

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