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 – Aug, 2025*

- Implemented a **6-step** pipeline with **LinkedIn API**, **OpenAI API**, **Google KG API**, and **PyGithub** to generate professional **HTML** and **PDF** resumes.
- Developed async URL validation with **httpx** for bulk validation, achieving **100%** link integrity with a **24-hour TTL SQLite** API response cache.
- Built AI-powered content enhancement using **OpenAI API** with skill filtering, project extraction, and technical highlighting modules in the **transformer** and processor stages.
- Created responsive **HTML** generator and **Playwright**-based PDF generator modules with centralized styling configuration for print-ready resumes.

VARC_APP | GitHub   *Apr, 2025*

- Developed a **Streamlit** app in app/main.py with app/components/ and app/utils/ using **Python** and **pip** to deliver **one daily article** from The Hindu or The Telegraph with topic probabilities **Business 20%**, **Science 50%**, **Art 20%**, and **Philosophy 10%**.
- Implemented web scraping modules in app/scrapers/ using **requests** and **BeautifulSoup** to fetch and cache **one article per day** in data/ for each source.
- Organized the project into app/components/, app/scrapers/, app/utils/, data/, and requirements.txt using **pip** for dependency management across **five modules**.

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

- Implemented a distributed text processing architecture in **Python 3.8** with **5 main nodes** on ports **8000–8999** to coordinate load balancing, health monitoring, and system operations.
- Developed **10** data nodes on ports **9000–9999** using **chunk-based storage** and **replication** for persistent text data management and distribution.
- Engineered **10 compute nodes** on ports **10000–10999** to perform **semantic similarity searches**, **embedding generation**, and **real-time text chunking analysis**.
- Integrated **automated tests** via **Python** scripts to run **unit, integration, and frontend tests** and generate **coverage reports**.

SKILLS

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

Databases & Data Storage: MySQL, MongoDB, SQL

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

Libraries & Tools: Git, NumPy, Pandas (Software), Scikit-Learn, Jupyter, pytest

AI & Data Science: Prompt Engineering, Recommender Systems, Natural Language Processing (NLP), Convolutional Neural Networks (CNN), Transformers, Deep Learning

Fundamentals: Graph Theory, Data Structures, Algorithms, 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*