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*   *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*

- Built a **6-step Python** pipeline using **Playwright**, **HTTPX**, and **OpenAI** to fetch LinkedIn data, transform, AI-enhance, validate, and generate HTML/PDF resumes.
- Optimized AI enhancement to process **47 skills** and extract **1247-character** data, yielding **2 projects** and **5 tech highlights** with **OpenAI o4-mini**.
- Validated **5 URLs** with **HTTPX** async bulk processing (**10 concurrent**, **200 OK**) and integrated **Google Knowledge Graph** for entity fallback.
- Generated responsive **HTML** and print-ready PDF in **62s** using **Playwright** with configurable styling (HelveticaNeue, colors, spacing) via config.py.

VARC_APP | GitHub   *Apr, 2025*

- Implemented a **Python Streamlit** app that selects one random article per day with topic probabilities of **20%** business, **50%** science and technology, **20%** art and literary criticism, and **10%** philosophy and sociology.
- Developed two **web scrapers** for The Hindu and The Telegraph under scrapers/ to fetch articles dynamically.
- Organized the **monorepo** into **four modules**: app/components (UI), app/scrapers (data extraction), app/utils (helpers), and app/main.py (orchestration).
- Leveraged a data/ directory for **24-hour** caching of articles and **pip**-based dependency management via **requirements.txt**.

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

- Implemented distributed text processing in **Python 3.8+** with **5 main nodes**, **10 data nodes**, and **10 compute nodes**.
- Developed **Python** scripts for load balancing and health monitoring across **5 main nodes** coordinating text chunk replication/persistence across **10 data nodes**.
- Configured **REST API** endpoints with auto-generated **OpenAPI** docs at http://localhost:8000/docs and a web frontend on port 8501 for semantic search/chunk management.
- Established **Python**-based **unit, integration, and frontend tests** with **coverage reporting** using **management scripts** and **virtual environments** defined in **requirements.txt** and **requirements-test.txt**.

SKILLS

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

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

Web & Frameworks: FastAPI, Spring Boot, Angular, Node.js, Streamlit

APIs & Libraries: REST APIs, API Gateways, PIL, SQLAlchemy, Pandas (Software), NumPy

Databases & Data Storage: MySQL, MongoDB

Tools & Platforms: Git, Jupyter, pytest

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*