

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 (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** pipeline with **LinkedIn API**, **OpenAI API**, **Google Knowledge Graph API**, **PyGithub**, and **Playwright** to fetch, transform, validate, and generate HTML/PDF resumes.
- Developed async URL validation and multi-layer discovery with **httpx** and **Google Knowledge Graph API** using **24-hour TTL cache** across **100+ API calls** per run.
- Engineered AI-driven content optimization with **OpenAI API** that filtered **50+** skills and highlighted experiences across dedicated processor modules with centralized styling config.
- Integrated **SQLite**-based caching and error resilience with **python-dotenv** and **requests**, reducing redundant calls by **90%** through automatic cleanup and cache stats management.

VARC_APP | [GitHub](#)

Apr, 2025

- Developed a **Python Streamlit** app with **web scraping** modules for **two news sources** (The Hindu, The Telegraph) to fetch and cache daily articles.
- Engineered a **Python** topic-based probability engine within the **Streamlit** app distributing selection with metrics **50%** science, **20%** business, **20%** art, and **10%** philosophy to deliver a single daily article.
- Structured **Python** modules and **Streamlit** UI components into app/components, app/scrapers, app/utils, and data/ directories to separate UI elements, scraping logic, utilities, and article caching.

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

Mar, 2025

- Designed distributed **Python 3.8+** system with **5 main**, **10 data**, and **10 compute nodes** across ports **8000-10999**.
- Implemented chunk-based storage and replication on **10 data nodes** using **Python 3.8+** with persistence and load-balanced port distribution (**9000-9999**).
- Developed **Python** compute pipeline on **10 nodes** for text chunking, embedding generation, and semantic search with health monitoring and load balancing.
- Created **Streamlit** frontend at localhost:8501 and API docs at localhost:8000/docs supporting unit, integration, and **frontend tests** with coverage.

SKILLS

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

Machine Learning & Data Science: Pandas (Software), NumPy, Scikit-Learn, Natural Language Processing (NLP), Convolutional Neural Networks (CNN), Transformers

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

APIs & Libraries: OpenAI API, REST APIs, PIL, SQLAlchemy, Jupyter

Databases & Data Storage: MySQL, MongoDB, SQL

Computer Science Fundamentals: Algorithms, Data Structures, Graph Theory

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