

# 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 using **LinkedIn API**, **OpenAI API**, **Google KG API**, **PyGithub**, and **Playwright** to fetch, transform, enhance, validate, and output **HTML/PDF** resumes.
- Developed async URL validation with **httpx** and **requests** to check **100+** links concurrently and remove broken URLs in step 4.
- Configured **HTML** and **PDF Generator** modules with **Playwright** and centralized styling in config.py for consistent professional output.
- Enabled AI Processor module with **OpenAI API** for skill filtering, experience extraction, and technical highlighting on **JSON-Resume** data.

### VARC\_APP | [GitHub](#)

Apr, 2025

- Implemented a **Python Streamlit** application that scrapes The Hindu and The Telegraph and applies a topic probability distribution (**50%** science, **20%** business, **20%** art, **10%** philosophy).
- Developed a **Python** scheduler to select and cache one random article daily in the 'data' directory, ensuring the same article is displayed for **24 hours**.
- Structured the code into three **Python** modules: 'app' for **Streamlit** UI components, 'scrapers' for **web scraping** ingestion, and 'utils' for helper functions, all orchestrated by main.py.

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

Mar, 2025

- Implemented distributed text processing in **Python 3.8** using **5 Main nodes** (coordination on ports 8000–8999), **10 Data nodes** (storage on ports 9000–9999), and **10 Compute nodes** (embedding and similarity search on ports 10000–10999).
- Developed **chunk-based storage** and **replication** with **semantic search** capabilities, **load balancing**, and **health monitoring** across **25 nodes** to ensure real-time node management and data persistence.
- Integrated **REST API** and **Streamlit** frontend with dependencies managed via **virtualenv** and **pip (requirements.txt)** served at <http://localhost:8501> and API docs at <http://localhost:8000/docs>.
- Established **automated testing pipelines** running unit, integration, and **frontend tests** with **coverage report generation**, achieving **100%** test coverage.

## SKILLS

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

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

**APIs & Libraries:** REST APIs, SQLAlchemy, Node.js, Angular, FastAPI, OpenAI API

**DevOps & Cloud:** Cloud Computing, API Gateways, Git

**Databases & Data Storage:** MySQL, MongoDB

**Software Development & Tools:** pytest, Graph Theory, Object-Oriented Programming (OOP), 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