

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** modular pipeline combining **LinkedIn API**, **OpenAI API**, **Google Knowledge Graph API**, and **Playwright** to fetch, enhance, validate, and generate resumes in **HTML** and **PDF** formats.
- Developed async URL validation with **httpx** and **SQLite**-based API response caching achieving **24-hour TTL** across >5 integrated APIs.
- Utilized **PyGithub** and **AI-powered content optimization** to extract and highlight skills and project experiences for consistent styling across outputs.
- Designed error-resilient modules with graceful fallbacks and centralized config management for fonts, colors, and layout.

VARC_APP | [GitHub](#)

Apr, 2025

- Implemented a **Streamlit** app that selects one daily article from The Hindu or The Telegraph using topic weights of **20%** Business, **50%** Science, **20%** Art, and **10%** Philosophy.
- Developed modular **Python** scrapers in app/scrapers/ to extract articles from **two sources** and cached them in data/ to serve the same selection for **24 hours**.
- Constructed a clean UI with reusable components in app/components/ and utility functions in app/utills/ for probability-based filtering.
- Structured the project with **app/main.py** as entriypoint and organized dependencies in **requirements.txt** while separating concerns across **scrapers**, **components**, and **utills**.

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

Mar, 2025

- Implemented distributed text processing using **Python 3.8+** across **25 nodes** (**5 main**, **10 data**, **10 compute**) with port ranges **8000-10999**.
- Developed **chunk-based storage** and **replication** on **10 data nodes** achieving persistent text management.
- Designed **compute pipelines** on **10 nodes** for **text chunking**, **embedding generation**, and **semantic search** with **real-time health monitoring** and **load balancing**.
- Integrated **modular API** and **frontend components** across app/api, core, models, services, and scripts.

SKILLS

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

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

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

Databases & Data Storage: MySQL, MongoDB, SQLAlchemy

DevOps & Cloud & Tools: Cloud Computing, Git, pytest, Jupyter, PIL

Software Engineering & Concepts: Graph Theory, 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