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 (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 *6-step* pipeline using *linkedin-api*, *OpenAI*, *Google Knowledge Graph API*, *PyGithub* and *Playwright* to fetch, enhance, validate and output *HTML*/*PDF* resumes.
- Integrated *httpx* with *SQLite* caching (*24-hour TTL*) to validate URLs and avoid redundant API calls.
- Developed AI processor with *OpenAI API* for skill filtering and tech highlighting from *LinkedIn* and *GitHub* data.
- Designed configurable styling system via *Python* and *CSS* for responsive *HTML*, high-quality PDF conversion and centralized layout management.

VARC_APP | GitHub *Apr, 2025*

- Implemented a *Streamlit* app with structured UI components and scrapers for The Hindu and The Telegraph, leveraging *BeautifulSoup* and *requests*.
- Configured topic-based probability distribution (Business *20%*, Science, Environment, and Technology *50%*, Art and Literary Criticism *20%*, Philosophy and Sociology *10%*) to select one article daily.
- Organized code into *app/components*, *app/scrapers*, *app/utils*, and *main.py* with *cached article storage* in a *data directory*.
- Managed dependencies via *pip* with *requirements.txt* for streamlined deployment.

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

- Developed a distributed text processing system in *Python 3.8* with *virtualenv* and *pip* managing *5 Main*, *10 Data*, and *10 Compute Nodes*.
- Configured Main Nodes (*8000–8999*) for coordination and load balancing, Data Nodes (*9000–9999*) for replication, and Compute Nodes (*10000–10999*) for embedding and semantic search via *Python* scripts.
- Implemented *chunk-based storage*, *data persistence*, *health monitoring*, and *load balancing* across *25 nodes* using *Python* services.

SKILLS

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

Machine Learning & AI: Machine Learning, Deep Learning, Natural Language Processing (NLP), Large Language Models (LLM), Transformers, Prompt Engineering

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

Databases & Data Storage: MySQL, MongoDB

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

Computer Science Fundamentals: Data Structures, Algorithms, 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*