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*   *Jul, 2019 – Mar, 2021*

Burdwan Town School | Secondary | *GPA: AA*   *Jan, 2011 – Mar, 2019*

PROJECTS

CVPipeline | GitHub   *Jul, 2024 – Jul, 2025*

- Implemented a *6-step* modular pipeline using *LinkedIn API*, *OpenAI API*, *Google Knowledge Graph API*, *Playwright* & *PyGithub* to fetch, transform, AI-enhance, validate, and generate HTML/PDF resumes.
- Validated *100%* of URLs across profiles with *async httpx*-powered, multi-layer discovery and error-resilient *url_validator* module.
- Enhanced content for *100%* of LinkedIn profiles with AI-driven skill filtering, experience extraction, and technical highlighting via *openai_processor*.
- Generated responsive HTML and print-ready PDF in under *30s* per profile using *html_generator* and *pdf_generator* with configurable styling.

VARC_APP | GitHub   *Apr, 2025*

- Implemented a *Streamlit Python* app selecting a daily article from The Hindu or The Telegraph with topic probabilities Business *20%*, Science/Environment/Technology *50%*, Art *20%*, and Philosophy/Sociology *10%*.
- Developed *app/scrapers modules* for *two sources* integrated with *app/utils* and *data caching* to ensure consistent *daily outputs*.
- Structured codebase into *four* core modules: app/components for UI, app/scrapers for scraping, app/utils for helpers, and main.py orchestrating workflow.
- Enabled a *three-step* setup: clone repo, *pip* install -r requirements.txt, and *streamlit* run app/main.py for immediate deployment.

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

- Implemented distributed text processing with *Python* 3.8+, *FastAPI* (API docs), and *Streamlit* (frontend) across *five Main nodes* (ports 8000–8999), *ten Data nodes* (9000–9999), and *ten Compute nodes* (10000–10999).
- Engineered *chunk-based storage* with *10 Data nodes* handling *replication* and *persistence* to optimize text data distribution.
- Developed Compute node cluster generating embeddings and semantic similarity searches across *10 nodes* for real-time analysis.
- Set up *continuous integration* and test suite using *pytest* for unit, integration, and *frontend tests* with *coverage reporting*.

SKILLS

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

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

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

Databases & Data Storage: MySQL, MongoDB, SQL

Developer Tools & QA: Git, pytest

Computer Science Fundamentals: Object-Oriented Programming (OOP), 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*