DEBJYOTI RAY

+91 9874556349 | 22f3002029@ds.study.iitm.ac.in | github.com/DebjyotiRay | linkedin.com/in/debjyotiray5811

EDUCATION

Indian Institute of Information Technology Allahabad, *B.Tech in Electronics Engineering* GPA: 8.4 — Oct 2026
Indian Institute of Technology Madras, *B.S. in Data Science* GPA: 8.13 — Jun 2026
Indian School Certificate(ISC) , *Higher Secondary* | Kolkata, India Percentage: 95.25% — Aug 2022
Indian Certificate of Secondary Examination(ICSE) | Kolkata, India Percentage: 98.40% — Mar 2020

Courses: Linear Algebra | Statistics | Calculus | Data Structures and Algorithms | Machine Learning Fundamentals | Machine Learning Techniques | Object Oriented Programming[JAVA] | System Commands[OS] | Financial Mathematics

EXPERIENCE

ALMA Inc. , *AI Engineer* | Remote (San Francisco Bay Area) — March 2025 - Present

- Resolved 40+ support tickets via Notion, Linear, and Slack; on user onboarding by deploying seamless OCR and parameter extraction pipelines from submitted legal documents, improving user intake efficiency by 23%.
- Engineered a multi-agent document extraction pipeline, increasing OCR accuracy by 45% and reducing data-entry errors by 29%, using: Mistral-ocr-latest for markdown conversion; Pixtral-12B ; Mistral-2B SLM as a post-processing agent.

Crecientech [University of Missouri-Columbia and Alexion Pharmaceuticals Inc.]
ML Engineer Intern | Remote (Boston, Massachusetts) — May 2024 - Jul 2024

- Under guidance of Prof.Dong Xu and Dr.Gyan Shrivastava proposed an architecture for precise contextual QA models.
- Built a biomedical knowledge graph pipeline processing 500+ PubMed abstracts with MedPalm-2 and GPT-3.5, achieving 92% accuracy in protein-pathway mapping cross-referenced with STRING-db, and Reactome.
- Scaled automated graph construction by 22.71%, creating 3000+ entities and relationships, used multi-agent architecture for, leveraging small language models (SLMs) to reduce inference time and latency. **[LINK] [RECOMMENDATION]**

Sapphire: AI Trader , *Research and Business Lead (Co-Founder)* | India — Aug 2023 - Present

- Developed a novel ensemble trading agent using multiple SOTA reinforcement learning algorithms combined with LLMs on stock market data, achieving a 20% increase in annualized returns and a 15% reduction in volatility.
- Directed an 8-member team under a Board of Advisors in parallel for algorithm development and interface deployment; achieving a 30% growth in net positive independent portfolio over 3 months. **[GITHUB]**

WorldQuant, *Quantitative Research Consultant Intern* | Remote (Mumbai, India) — Jan 2024 - May 2024

- Developed **over 150 predictive alphas** to forecast market trends in the USA and China, using comprehensive price-volume and sentiment datasets; delivered alpha submissions with Sharpe ratios under 3.45 and fitness above 1.2.

PUBLICATIONS

- "Target and Biomarker Exploration Portal for Drug Discovery research", under review at **BioInformatics journal** ; **[PAPER] [LIVE LINK]**
- "Deep Q-Snake: An Intelligent Agent Mastering the Snake Game with Deep Reinforcement Learning", **IEEE TENCON-2024**; **[GITHUB]**

CODING PROFILES

Leetcode: voyager34 **Codechef**:1641 (**3 star**) voyager34 **Codeforces**:1423 (**Specialist**) voyager34

SKILLS

Languages Python, C/C++, Java, Matlab, Git, LaTeX
Tools/Frameworks Numpy, Pandas, Scikit-Learn, LangChain, HuggingFace, CrewAI, Reasoning Models, Tensorflow, Pytorch

PROJECTS

Amazon ML Challenge 2024: Feature Extraction from Images **[REPORT]** — Sept 2024

- Processed 260,000+ images using PaddleOCR and Qwen-2VL-2B, fine-tuning the latter on 50,000 images by freezing non-critical layers and applying LoRA adapters with 4-bit quantization and FP16 precision. Evaluated performance based on multi-language accuracy and text orientation handling; ranking us 12th out of 75,000+ participating teams.
- Utilized A100 and T4 GPUs for parallel execution, employing Liger kernels, gradient accumulation, and cosine learning rate scheduling to maximize throughput while minimizing computational overhead.

StreamShop: Real-Time Object Detection **[GITHUB] [YOUTUBE]** — Sept 2024

- Implemented the Detection Vision Transformer (FSOD) algorithm, better than YOLO, processed custom datasets from the Amazon series "Panchayat" to identify objects and integrated it with a Flask API and websockets to recommend Amazon product links in real-time, ranking **Top 10 at Amazon HackOn.**

ACHIEVMENTS

Hackathons : AMAZON-HackOn'24, Hackout'23, Adobe Gensolve'24 , **Amazon ML Challenge'24** , **UC BERKELEY RDI AGENTX**
Research Summits: All India Research Scholar Summit - IIT Madras'24[Best Product Winners, Poster and Oral Presentation]
Conferences, Programs and Journals : IEEE TENCON 2024, ISRO–EXCHANGE , Journal of Swarm Robotics
- Top 4 teams out of 150,000 entrepreneurs in the **STPI [Startup India Finals] –Neuron, Mohali OCW 7.0**
- Raised a research grant with one of the highest valuations from **NewGen IEDC, IIIT-Allahabad (Incubator)** and **Xartup**
Exams: 99.28%ile JEE MAINS 2022 || **99.72%ile** WBJEE 2022 || **98.02%ile** JEE ADVANCED 2022 || KVPY SA 2021