



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2028	M.TECH Dual Degree 5Y	IIT Kharagpur	8.41 / 10
2023	AISSCE (CBSE XII)	DAV Public School Chandrasekharpur	96.6%
2021	AISSCE (CBSE X)	DAV Public School Balasore	95.2%

INTERNSHIPS

Foreign Training Program | University College Dublin(UCD), Ireland | Prof. Deepu John *Jun 2026 - Present*

- Architected a 5-layer agentic pipeline combining PostGIS, LLMs, and **LightGBM** models to predict housing prices across **15,000+** properties
- Created a Python **ETL pipeline** with multiple source connectors (PPR, OpenStreetMap) and automated handling of rejected data records
- Engineered an LLM agent layer (**OpenRouter**) with exponential backoff and JSON-mode parsing to extract insights achieving **90% accuracy**
- Containerized the **full stack** (Postgres, Redis, FastAPI, React) via **Docker Compose** for reproducible and sub-second map visualizations

Open Source Contributor | Unsloth AI *May 2026 - Present*

- Optimized custom **Triton kernels** to eliminate redundant tensor allocations, reducing peak **VRAM** overhead during gradient accumulation
- Fixed a critical broadcasting bug in **LoRA weight** initializations, ensuring seamless **model compatibility** across variable scaling architectures
- Formulated an active patch for dynamic sequence **padding**, resolving outstanding tensor **shape mismatches** during multi-GPU training runs
- Benchmarked throughput** across multiple quantization configurations, verifying **2x faster** fine-tuning speeds via rigorous integration tests

PROJECTS

QwenSwarm: RepoPilot | Global AI Hackathon Series with Qwen Cloud *May 2026 - June 2026*

- Architected a Multi-Agent system using SGLang **RadixAttention** cache, reducing latency by **3,500ms** and achieving an **83.3% cache hit rate**
- Built a **Conductor Agent** orchestrating specialized worker agents through task decomposition, **shared context**, and repository coordination
- Engineered a Repository Intelligence Layer using **tree-sitter ASTs** and **NetworkX** to extract semantic and call graphs for code understanding
- Implemented a **Self-Healing** repair pipeline, scaling serverless GPU inference on **Modal** using optimized **Qwen2-VL-7B** endpoints

Cognitive Traffic Orchestrator | Flipkart Gridlock Hackathon 2.0 *May 2026 - Jun 2026*

- Engineered a **7-agent AI** orchestration system processing **8,000+ traffic incidents** across 22 Bengaluru corridors with CCTV spatial reasoning
- Built a **LightGBM + RAG** pipeline with 11 FastAPI endpoints, predicting clearance times and generating dispatch briefs at **1ms latency**
- Designed a **Spatio-Temporal Risk Engine** scoring incidents **0-100**, retrieving similar cases via Nearest-Neighbor RAG for recommendations
- Developed a React/Vite dashboard with **live KPI** monitoring, event feeds, and an operator **feedback loop** that refines RAG model weights.

Spark Fleet | Automated Lead Generation & WhatsApp Outreach Engine | Self Project *Apr 2026 - May 2026*

- Architected an end-to-end pipeline extracting conference sponsor leads from PDFs using **PyMuPDF** and **Tesseract OCR** for scanned docs
- Engineered an LLM extraction layer via **Groq** (Llama-3.3-70B) to parse sponsor names, tiers, and contact details from unstructured raw text
- Integrated **Apollo API** to enrich leads with decision-maker contact details and professional **LinkedIn** profiles beyond raw PDF source data
- Designed a **Zoho CRM** schema and **WATI** templates, connecting the pipeline via asynchronous FastAPI webhooks for **automated** outreach

COMPETITION/CONFERENCE

Team Vice-Captain | General Championship Data Analytics 2026 | IIT Kharagpur *Feb 2026 - Mar 2026*

- Headed a **12-member** team to build **Frammer AI**, defining solution architecture, assigning tasks, and securing **4th place** among 18 teams
- Architected an Agentic AI analytics platform integrating **RAG**, **Vector Search**, FastAPI, PostgreSQL, and LLM-based NLQ across **105+ KPIs**
- Designed a **4-phase ML pipeline** and **10 dashboard modules**, enabling multi-level analytics across Admin, Client, and User workflows
- Directed **KPI design**, dashboard architecture, and data workflows, thereby driving forecasting, recommendations, and **anomaly detection**

Team Member | Winner | General Championship Data Analytics 2025 | IIT Kharagpur *Feb 2025 - Mar 2025*

- Built a **Market-Mix Modeling** processing pipeline on for ElectroMart(**1.05M records**), using **k-NN** and **MICE** imputation to handle anomalies
- Derived **20 KPIs** (CLTV, NPS) and performed **12-channel EDA** using correlation heatmaps, Pareto analysis, and sales trend segmentation
- Developed nonlinear **optimization** models (log-linear, ridge regression, gradient ascent), hence achieving **129% ROI** and **29% Net Profit**
- Deployed a **92% NLQR** analytics chatbot and interactive ElectroMart Analytics **BI dashboard** using PostgreSQL and FastAPI on **AWS EC2**

SKILLS AND EXPERTISE

Languages, Libraries & Frameworks: Python | C++ | SQL | HTML | PyTorch | TensorFlow | Keras | Scikit-Learn | Hugging Face | LangChain | LangGraph | SGLang | vLLM | Unsloth | Ollama | OpenVINO | FastAPI | Django | Pydantic | Flask | CrewAI | Pandas | Matplotlib | MLFlow
Tools & Platforms: AWS | Docker | Git/GitHub | GCP | MCP | Colab **Databases:** PostgreSQL | FAISS | Qdrant | ChromaDB | Redis | Zoho

COURSEWORK INFORMATION

Probability and Statistics | Linear Algebra, Numerical & Complex Analysis | Transform Calculus | Advanced Calculus | Programming and Data Structures (+ Lab) | Algorithms-1 | Operations Research | Economics | Computer Integrated Manufacturing | Heat Transfer

EXTRA CURRICULAR ACTIVITIES

- Served as Vice-Captain of MS Hall's **bronze-winning** core-developer team in the Inter-Hall General Championship Tech '26 **Opensoft** Event
- Managed hostel logistics, education and infrastructure for the JVM school as a **GYWS SEM**, leveraging rural **NSS** management experience