B.Tech.(Hons.) in MECHANICAL ENGINEERING and M.Tech. in MANUFACTURING SCIENCE AND ENGINEERING
MICRO SPL. in ARTIFICIAL INTELLIGENCE AND APPLICATIONS

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2027	M.TECH Dual Degree 5Y	IIT Kharagpur	8.18 / 10
2022	CBSE Class XII	Army Public School	94.6%
2020	CBSE Class X	Army Public School	94.6%

INTERNSHIPS AND PROJECTS

Data Analyst Intern | Financial Data & NLP | Plootus [Sep '25 - Present]
Objective: Built scalable NLP pipelines (spaCy, NLTK, Transformers) to extract structured insights from large-scale volumes of financial text
- Processed large-scale financial data, **35,000+ Form 5500** filings and **19,000+** earnings call transcripts, using tokenization and segmentation.
- Applied **FinBERT** and **DL** based classification to extract sentiment signals and filter **10,000+** valid investment entities from financial text.
- Leveraged **Selenium** web scraping to identify unmapped tickers, expanding internal fund database by **50%**, improving lookup accuracy.
- Engineered **readability features** (FOG, SMOG) & enriched financial metadata, enhancing **portfolio asset allocation** diversification by **25%**.

Machine Learning Intern | Chi SquareX Technologies [May '25 - Jul '25]
Objective: Applied Retrieval Augmented Generation (RAG) & Generative AI to build scalable, end-to-end intelligent personal secretary platform.
- Developed **RAG pipeline** using **LangChain**, chunked and indexed file formats (PDF, DOCX) into **Pinecone** multi-namespace vector stores.
- Integrated **Gemini 2.5** async streaming & **AbortController,** reducing latency to **2-3s** with via **384-dimensional** context-aware embeddings.
- Architected **3-tier matching** (Exact/Partial/Fuzzy) using **SQLAlchemy** to reconcile contacts, achieved **<100ms** latency across **1000+** logs.
- Implemented **FastAPI** architecture with **OAuth 2.0** & **JWT,** deploying scheduling agents via **Google Calendar API** to schedule meetings.

Research and Development Intern | Universiti Malaya | Prof. Loo CK [May '24 - Aug '24]
Objective: Applied machine learning and operations research techniques to optimize supply chain logistics and reduce operational costs
- Engineered a **Flask** web app for backorder prediction, achieving **97%** accuracy with **high recall** by effectively mitigating class imbalance.
- Implemented **SMOTE** to generate **2,000+** synthetic samples, balancing the training data and boosting the **F1-score** from **0.75 to 0.89**.
- Constructed a **FFNN** using **keras** optimized with **ReLU, Adam**, **Dropout**, preventing overfitting while maximizing predictive performance.
- Designed interactive **Folium** dashboards to map **500+** supply points, enabling users adjust delivery routes & reduce planning time by **30%**.

Customer Churn Analysis with MLOps | Self Project [Apr '25 - May '25]
Engineered a production-grade MLOps pipeline to automate the training &scalable deployment of a telecom customer churn prediction model
- Developed an **end-to-end** churn prediction pipeline using Python, testing **5+** models (Random Forest, XGBoost) achieving **80%** accuracy.
- Integrated **MLflow, DVC,** and **GitHub Actions** together to automate entire experiment tracking, data versioning, and **CI/CD** automations.
- Deployed the best model using **FastAPI**, did the containerization via **Docker**, and hosted the service on **AWS EC2** with **REST** endpoints.

COMPETITION/CONFERENCE

Ankur - Agentic AI Chatbot for Indian Agriculture | Capital One Launchpad [Jul '25 - Aug '25]
Orchestrated a multi-modal conversational AI powered by a retrieval engine and tool-supported LLM, delivering complex agricultural queries
- Engineered a table-aware **RAG** pipeline with **14,447** chunks, utilizing hybrid search (**FAISS & BM25**) to boost similarity scores by **0.4**.
- Architected a confidence-driven **Agentic** core using **GPT-OSS-120b** model, triggering tools Market Prices API, OpenWeather, and **Tavily.**
- Deployed a full-stack, voice-enabled prototype using **Gradio UI**, **OpenAI Whisper** and Google Text-to-speech on **Hugging Face** Spaces.

Time Series Analysis | General Championship Data Analytics [Sep '24- Oct '24]
Analyzed 30M+ tourists to engineer a high-precision forecasting framework, optimizing traffic management strategies across 3 Indian states.
- Architected a comparative ML pipeline benchmarking **FB Prophet** and **LSTM**, achieving a state-of-the-art **RMSE of 0.058** per lakh tourists.
- Innovated with **15+** models, implementing advanced ensemble techniques like **blending, soft voting, PCA,** and dimensionality reduction
- Achieved high-performance results on dual tasks: **95.6%** Accuracy and **0.98 ROC-AUC** for classification, and an **R² of 0.877** for regression

SKILLS AND EXPERTISE

Programming & Development Tools: Python | C | C++ | SQL | ReactJs | HTML | Google Colab | CSS | PowerBI | NodeJs | Javascript | GO
Frameworks & Libraries: NumPy | Pandas | Matplotlib | Scikit-learn | MongoDB | PyTorch | TensorFlow | Express | Hugging Face | Groq | LangChain | Langgraph | MLflow | DVC | Docker | AWS | FastAPI | Streamlit | Gradio | Ollama | Firebase | Gemini | OpenAI | Github
MOOCs: Data Structure and Algorithms | Machine Learning Specialisation | Google Data Analytics Specialisation | Zerodha Varsity

AWARDS AND ACHIEVEMENTS

- Ranked in top **2.5%** in JEE Main 2022 and top **4%** in JEE Advanced 2022 among more than **1 million** candidates conducted by Govt. of India
- Selected for **Amazon ML Summer School 2025**, receiving mentorship on Deep Learning & Generative AI from Amazon Scientists.
- **National Finalist** in **Dr. Reddy's Case Competition** and **NAEST** (by Prof. H C Verma), competing against top tier participants across India.
- Recipient of **PMSSS** Pradhan Mantri Special Scholarship Scheme for the entire course at IIT Kharagpur, ranking in the **top 1%** of students.

POSITIONS OF RESPONSIBILITY

Strategy Head | Finance and Economics Club | Indian Institute of Technology Kharagpur [Apr '24 - Apr '25]
- Orchestrated **national-level** equity and crypto trading simulations with **StockGro**, while hosting financial workshops for **500+** participants.
- Analyzed market trends and investment signals, concurrently managing digital content strategies that drove a **50%** surge in engagement.

EXTRA CURRICULAR ACTIVITIES

- Actively Participated in **NSO** (National Sports Organization)Hockey, contributed positively to **team** dynamics, discipline and coordination
- Won **3rd Prize** in creative Poster Design at **MSEs** (Metropolitan Stock exchange) InvestorEXPO Event during **World Investor Week 2023**
- Contributed towards smooth execution of the **Illumination (Silver)** and **Rangoli (Silver)** events held at Rajendra Prasad Hall of Residence