

Academic Qualifications

Year	Degree/Certificate	Institute	CPI/%
2023-2027	B.Tech-Chemical Engineering	Indian Institute of Technology Kanpur	7/10
2023	CBSE(XII)	Dev Samaj Vidya Niketan School, Gurgaon	94.4%
2021	CBSE(X)	Dev Samaj Vidya Niketan School, Gurgaon	93.2%

Scholastic Achievements

- Earned **Bronze Level** recognition in the **WorldQuant Challenge** for applying predictive modeling techniques2024
- Secured **All India Rank 5649** in JEE Advanced 2023 among the **1.9 Lakh** shortlisted candidates across India2023

Work Experience

Optimizing DELM via Small-World | Winter Intern

Mentor: Prof. R.M. Hegde, Dept. of Electrical Engineering, IIT Kanpur

(Nov'24 - Jan'25)

Objective	Developed a high-speed DELM model as a scalable alternative to backpropagation-based neural networks
Approach	Implemented small-world architecture with randomized inter-layer connections to boost model efficiency Enhanced accuracy via optimal node selection using weight analysis and activation value analysis Experimented with learning methods , number of nodes and implemented iterative weight storage solution
Impact	Achieved 100% stability on Concrete dataset with 15x lower training time and reduced RMSE compared to traditional backpropagation models; delivered similar results on Parkinson and Energy datasets

Key Projects

CycleGANs: Translating Images | IITK Consulting Group | IIT Kanpur

(May'24 - Jul'24)

Objective	Built a CycleGAN model to perform unpaired , high-quality image-to-image translation across domains
Approach	Used GAN architectures like Pix2Pix , PatchGAN , and DCGAN to improve translation quality and stability Applied ML techniques such as PCA , k-means , regression, ANN , and CNN to optimise model performance
Results	Achieved Realistic image translation in domains like (day ↔night, horse↔ zebra), without paired datasets

Mutual Fund Return Prediction & Portfolio Suggestion System | Self Project

(May'25 - Jul'25)

Objective	Developed a TFT model to predict Mutual Fund returns and optimal investment distribution
Approach	Scraped and cleaned monthly and annual return data for 80+ Mutual Funds from ETmoney and AMFI Built a TFT , and implemented allocation strategy to suggest portfolio in top-performing and stable funds
Result	Achieved 8% return on test data with portfolio suggestions balancing growth and risk stability in 2 months

Stochastic Modelling of Financial Derivatives | Stamatics | Dept. of Statistics, IIT Kanpur | 

(May'25 - Jun'25)

- Modeled asset price via **Brownian Motion**; implemented **Black-Scholes** and **Heston** models on **NIFTY/S&P 500** data
- Calibrated **volatility models** using **Monte Carlo simulations** and ML to price **complex derivatives** under uncertainty

Connectify | ACA | Dept. of Computer Science, IIT Kanpur

(May'24 - Jun'24)

- Built a responsive frontend for a social media platform using **HTML/CSS**, with core features like profiles, posts, and likes
- Designed scalable **UI/UX** foundation to support future backend integration and real-time user interactions on platform

Automated Remote Payload Delivery | Self Project | IIT Kanpur | 

(May'25 - Jun'25)

- Built a Python **web server** with **auto-download triggers** to simulate real-world payload delivery using **Quasar RAT**
- Exposed the server via **ngrok** and tested in a **sandboxed setup** to analyze delivery chains and remote access behavior

LLM Fine-Tuning | Self Project | IIT Kanpur | 

(May'25 - Jun'25)

- Fine-tuned open-source **LLaMA** model using **instruction-tuning** and **PEFT methods** to generate task-specific responses
- Evaluated uncensored **Mistral-7B-Instruct-v0.2-GPTQ** and achieved a functional local chatbot without cloud APIs

Technical Skills

Programming Languages	Libraries	Core Concepts
C, C++, python, SQL, MATLAB	Numpy, Pandas, Keras, Matplotlib, TensorFlow	DBMS, OOPs, Probability & Statistics

Relevant Courses

Fundamentals of Computing	Computer Methods for Engineers	Introduction to Electronics
Single Variable Calculus	Linear Algebra	Ordinary Differential Equations

Positions of Responsibility

Core Team Member, Chemineers Society | Dept. of Chemical Engineering, IIT Kanpur

(Apr'25 - Present)

Leadership	Leading a three-tier team of 40+ to drive academic, skill-based and cultural growth for 700+ students
Management	Managing INR 7.2 Lakh budget, targeting INR 10+ Lakh this year ensuring efficient resource allocation Recruited 15 secretaries out of multiple application received through two-stage elimination process
Intiative	Led initiatives like Intern Marathons , alumni talks , and fresher sessions, enhancing career readiness Collaborated with 10 IITs to organise ChemBlitz, an inter-IIT E-sports Tournament featuring 6 games