



Aryan Mishra

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EDUCATION

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2026	B.Tech. (ECE)	Indian Institute of Technology, Roorkee	7.14
2021	Intermediate (Class XII)	C.M. Science College, Bihar (BSEB)	75.40%
2019	Matriculate (Class X)	Rose Public School, Bihar (CBSE)	88.60%

AREAS OF INTEREST

DS/ML - GenAI, NLP and Image processing techniques, LLM Fine-Tuning, Multimodal AI, RAG & Prompt Engineering

WORK EXPERIENCE

- **Research Intern | ECE Department, IIT Roorkee** May 2025 – July 2025
 - Built a defence-grade YOLOv8 pipeline using Python, PyTorch, and OpenCV, training for 50 epochs on 640×640 aerial imagery.
 - Scaled a 500-image dataset to 1500 using data augmentation and super-resolution, achieving a 12% boost in airbase-asset detection
 - Fine-tuned YOLOv8s to detect four classes: aircraft, runways, hangars, and vehicles while maintaining fast, terrain-robust inference
- **Analyst Intern | PARAGON IT SERVICES PVT. LTD.** Nov 2024 - Jan 2025
 - Automated 3+ complex data workflows using Python scripts, enhancing overall efficiency and reducing processing time by over 20%.
 - Built interactive dashboards with Plotly and Dash to visualize real-time metrics and improve analytical visibility across teams.
 - Optimized 2 data pipelines by integrating advanced Python libraries, cutting repeated manual workload by 15 hours weekly.
 - Engineered a dynamic reports showcasing 5+ KPIs, strengthening data-driven business decisions and process accuracy by 5%.

PROJECTS

- **ValuAI: Price Prediction Using Fine-Tuned LLaMA and QLoRA | Self Project**
 - Built a multi-agent system that scrapes product from the web, analyzes prices and notify on identifying underpriced products.
 - Fine-tuned a LLaMA 3.1-8B model using QLoRA on a custom-curated dataset Amazon reviews for accurate product price prediction.
 - Deployed the fine-tuned model on HuggingFace with optional W&B tracking, outperforming GPT-4o Mini via experiment monitoring.
- **Neural Network Implementation over FPGA | ECE Department, IIT Roorkee**
 - Developed FPGA-based ANN accelerator for MNIST classification tasks, achieving 9-microsecond latency—1000× faster than CPU.
 - Engineered hardware-efficient activation functions (LUT & PWL tanh) carefully balancing BRAM usage, logic, and accuracy.
 - Optimized FPGA resources for a 784-30-30-10 network architecture, enabling high-speed, low-power edge computing.
- **Stock Sentiment Analysis Using Machine Learning | Finance Club, IIT Roorkee**
 - Developed a stock sentiment analysis model using machine learning algorithms, achieving an overall accuracy score of 0.65 reliably.
 - Worked extensively on data gathering pipelines and preprocessing, conducting thorough sentiment analysis using VADER effectively.
 - Applied various NLP techniques to clean over 17,000 data points efficiently. Tech Stack: Selenium, Decision Tree, Random Forest.
- **Fourier Series and transformation: Application | PaAC, IIT Roorkee**
 - Performed sound wave analysis using signal processing, including Fast Fourier Transform and noise elimination from audio signals.
 - Audio signal analysis using MATLABs Fast Fourier Transform (FFT) to reduce noise, enhancing signal clarity and accuracy.

Achievements

- All India Rank 1832 in JEE Advanced2022
- Gold in Techshila 2.0 - From Passive To Pro: Building Career-Ready Students
- Global Rank 42 in CodeChef Starters 137
- Global Rank 143 in CodeChef Starters 139

TECHNICAL SKILLS

Computer Languages: C++, Python, SQL

Software Packages: NumPy, Pandas, PyTorch, Transformers, LangChain, Gradio, Docker, FastAPI, Scikit-learn, Git

Additional Courses: LLM Engineering, AI-Agents, Supervised ML, Unsupervised Learning, Reinforcement Learning

Languages Known: English(SRW), Hindi(SRW), Maithili(SRW)

POSITIONS OF RESPONSIBILITY

- **Deputy General Secretary | National Cadet Corps, IIT Roorkee** March 2023 – April 2025
 - Coordinating over 420 cadets of 3 UK CTR National Cadet Corps at IIT Roorkee with officers of Colonel rank.
 - Responsible for conceptualizing and implementing training activities for cadets in accordance with its aim and objectives.
 - Executed 15+ key initiatives, including CATC, Cleanliness Drive, GoH, and Blood Donation Camps.
 - Heading a team of 57 individuals under 6 different verticals for implementing new initiatives under NCC.
- **Chief Developer | Hostel Council, IIT Roorkee** August 2023 – June 2024
 - Chief developer for the Married Hostel App, handling design, coding, and launch to improve resident management.
 - Collaborated with a team to ensure the app met user needs and maintained high performance.