

RAVI KATARIYA

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Education

Indian Institute of Technology Kharagpur

Dual Degree (B.Tech.+M.Tech) in Civil Engineering, micro-specialization in AI & Applications

2021 - 2026

Kharagpur, West Bengal

Internships

Data Science & GenAI Intern | Drippit

December 2024 - February 2025

- Designed AI recommendation system for e-commerce, scaling product catalog to **5K+** SKUs with automated workflow
- Implemented **Vertex AI & Gemini** for image-to-text generation of product descriptions & metadata with consistency
- Built **FAISS** embedding search (cosine similarity) for **50K+** queries, achieving **200ms** latency & **50%** retrieval boost
- Developed Python microservices & automated pipelines, reducing curation time & accelerating onboarding at scale

Data Analyst Intern | BuyOneGram

May 2025 - August 2025

- Analyzed **5K+** QR scans & sales records for B2B company, using feature engineering to raise engagement levels by **18%**
- Refined referral and discount strategies by analyzing regional sales trends, return rates, and usage patterns for the firm
- Evaluated forecasting models ARIMA, SARIMA, boosting demand planning accuracy by **22%** with a **10% MAPE** score
- Engineered **10+** features, including seasonal indices, price diffs and cost ratios, improving accuracy & **7% profit growth**

Projects

Customer Support Orchestrator | Self Project

March 2025

- Built with **FastAPI** and **LangGraph**, uses **GPT-4o-mini** to classify, route queries to FAQ, DB, or escalation handlers
- Connect MCP servers for SQL, Email, Slack, with retry logic, error handling, and LangChain-driven task for automation
- Support local setup with Python or Docker deployment, with API endpoints for easy testing & development across envs

AI-Powered Investment Insights | Self Project

December 2024

- Devised **RAG** model to source data from **Big 4** consulting firms, suggesting top sectors & curated stocks for investment
- Utilized **RF, XGB, SVM, & LR** to classify short-term stock opportunities based on recent real-time market indicators
- Compared **ARIMA, SARIMA** and **LSTM** models, with **LSTM** achieving the best results with an MAPE of **2.5%**

Amazon Product Recommendation Model | Self Project

January 2024

- Designed recommendation system **65K** ratings(**1.5K** users, **5.7K** products) using collaborative & model-based filtering
- Implemented User-User CF, Item-Item CF, and SVD with kNN-based similarity modeling for personalized predictions
- Evaluated ranking and prediction performance using RMSE, Precision, Recall, and F1-score for Top-N results analysis

Movie Genre Classification | Self Project

April 2024

- Architected **NLP**-based classification system trained on dataset comprising more than **20K** descriptions from Kaggle
- Employed **NLTK** for text preprocessing techniques like stop word removal, lemmatization, stemming, and tokenization
- Attained peak accuracy of **91.34%** on test data by hyperparameter tuning for the **Multinomial Naive Bayes** classifier

Competitions

Gold | General Championship Data Analytics | IIT Kharagpur

February 2025 - March 2025

- Secured **1st** place by processing **1.65M+** transactions with regression, deriving KPIs (GMV, SLA) & finding key drivers
- Established **Ridge regression model** for marketing spend, explaining **90%** GMV variance and reducing errors to **6%**
- Mobilized gradient-based budget optimizer on multichannel marketing spends, reallocating over **9** channels to lift GMV

Technical Skills

Languages & Core Skills: Python, SQL, Machine Learning, Deep Learning, NLP, Gen AI, LLMs, Stats, Agentic AI

Libraries & Tools: Sklearn, TensorFlow, Streamlit, MySQL, Power BI, Tableau, Docker, GitHub, Kubernetes, AWS

Position of Responsibility

General Secretary Mess | Meghnad Saha Hall of Residence | IIT Kharagpur

August 2023 - July 2024

- Led the Mess committee, directing **35** workers & **2** supervisors, ensuring high hygiene standards and smooth operations
- Managed and audited mess bills and invoices, totaling **INR 10L** monthly, ensuring financial accuracy and transparency

Core Team Head | Technology Environment Society | IIT Kharagpur

August 2023 - June 2024

- Led a tree census of **1,300+** trees with **100+** volunteers, digitizing records into QGIS and ensuring accurate monitoring
- Successfully organized **7+** eco-initiatives, engaging **1,000+** participants through plantation campaigns & social events

Extra Curricular Activities

- Represented the Institute and Hall General Championship **Athletics** team, promoting teamwork and competitive spirit
- Won Gold Medals at IIT Kharagpur in the GC Hardware Modeling and in the Open IIT Product Design Competition