

Kaustubh Rath

Email: 1.0manydreams@gmail.com | Phone: +91-7499718082
GitHub: github.com/Kaustubh-Rathi | Codeforces: Pathu123 | LinkedIn: kaustubh-rathi-9228ab255 | Personal Website: kaustubh-rathi.github.io

Education

B.Tech in Information Technology (Minor in Economics), Indian Institute of Information Technology (IIIT), Allahabad July 2022 - June 2026
CGPA: 8.3/10 (as of 3rd Year)
Secured **99.45 percentile** in JEE Mains 2022 (Top 0.65% nationally)

Experience

ASPR AGROVALUE — AI Intern Dec 2024–Feb 2025

- Enhanced Qwen-1.5B model through LoRA fine-tuning on AWS SageMaker, reaching **85% accuracy** in farmer procurement predictions, leading to a **20% reduction in wasted resources**.
 - Built agentic AI system for real-time data scraping/processing (**1,000+ records/day**), improving operational efficiency by **30%**.
 - Integrated RAG with ensemble models (XGBoost/Random Forest) using 5+ data sources to enhance prediction reliability.
 - Engineered a Named Entity Recognition (NER) system using Python and NLP techniques (RAG, SLMs); system automated extraction of key data points, processing **10,000+ documents monthly with 95% accuracy**.
-

Projects

AI-Powered Multilingual Clinical Interview Chatbot [GitHub link - 📄]

Challenge: Limited access to clinical interviews due to language barriers.

Outcome:

- Architected multilingual NLP pipelines with Langchain and FAISS, spanning 5+ languages, to amplify clinical reach.
- Fused symptom extraction and automated reporting via TensorFlow, securing 89% precision.

Knowledge Graph-Powered News Analysis Chatbot [GitHub link - 📄]

Challenge: Ineffective parsing of relationships from unstructured news content.

Outcome:

- Forged a knowledge graph from 10,000+ articles using Python and NLP methodologies.
- Devised a question-answering framework with PyTorch, automating 85% of queries and slashing 20+ weekly support hours.

Collaborative Filtering Recommendation System [GitHub link - 📄]

Challenge: Challenges in predicting user preferences with sparse data.

Outcome:

- Dissected interaction patterns of 1,000+ users in MovieLens with scikit-learn and collaborative filtering.
- Delivered over 2,000 personalized recommendations monthly, enhancing user engagement by 15%.

End-to-End Wine Quality Prediction Pipeline [GitHub link - 📄]

Challenge: Subjective quality evaluation through manual tasting.

Outcome:

- Crafted an ML pipeline with TensorFlow, yielding a **0.45 mean absolute error** and **0.85 R-squared** across **1,600+ samples**.
 - Streamlined access for **50+ users** by deploying a Flask application on AWS, accelerating usability by **30%**.
-

Technical Skills

- Programming Languages:** Python, C++
 - AI & Machine Learning:** TensorFlow, PyTorch, Scikit-learn, Langchain, Langgraph, Crew AI, Agno, Regression, Classification, PCA, Random Forest, XGBoost, Feature Engineering, Hyperparameter Tuning
 - Data Analysis & Visualization:** NumPy, Pandas, Jupyter Notebook
 - Tools & Technologies:** AWS SageMaker, Docker, Git
-

Related Coursework

Data Structures and Algorithms | Object Oriented Methodologies | Operating System | Database Management System | Machine Learning | Artificial Intelligence | Data Mining | Generative AI | Data Visualization | Data Management

Volunteer Experience

Overall Coordinator - Robita Club (Generative AI), IIIT Allahabad Jan 2023 – June 2025

- Spearheaded a **10+** member team to execute **3+** AI initiatives with PyTorch, orchestrating hands-on workshops.

Coordinator - Rangtarangini (Drama Club), IIIT Allahabad Jan 2023 – June 2025

- Orchestrated large-scale cultural events for **1,000+** attendees, ensuring seamless delivery.
-

Achievements

- Secured **99.45 percentile** in JEE Mains 2022, ranking in the top **0.65%** nationwide.
- Achieved Codeforces Specialist (rating 1534) and LeetCode 1900+ in C++.
- Completed Options 101 course by Akuna Capital, mastering foundational options trading concepts [Link - 📄].