

ADITYA JHA | 21MA10005

MATHEMATICS AND COMPUTING (B.S.4Y)



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2025	4YRS B.S	IIT Kharagpur	8.46 / 10
2021	ISC	Salt Lake School(English Medium)	97.50%
2019	ICSE	Salt Lake School(English Medium)	95.40%

INTERNSHIPS AND PROJECTS

Incoming Summer Intern | Piramal Capital and Housing Finance Limited

[June'24 - July'24]

Received an offer for Software Development role for the upcoming summers during the On-campus Internship Drive at IIT Kharagpur

Research Intern | IIIT Hyderabad

[May '23 - Present]

Objective: Multiarm Bandit(MAB) Algorithms Analysis | Guide: Prof. Tejas P. Bodas (Department of CSE)

- Performed regret analysis on different Multiarm Bandit algorithms, and compared them for the case of Dynamic Pricing using Python
- Worked on optimising the Reinforcement Learning algorithms such as Upper Confidence Bound Algorithm and Thompson Sampling
- Researched on Gittin's Index, its optimality and order of regret when used in different scenarios of linear and contextual bandits

ChitChat | A web chat application

May '23]

- Developed a **room-based** chat application for multiple users to join rooms and engage in live conversations with **user authentication**
- Utilized React.is, Bootstrap, HTML, and CSS for the front-end, and created a dynamic user interface for enhanced user representation
- Implemented instant message updates and synchronization between the users using Node.js and Socket.IO framework in the backend

Credit Card Fraud Detection | Self Project

/lay '23

- Implemented data analysis, and preprocessing to handle an imbalanced dataset consisting 492 fraud cases out of 284,807 transactions
- Applied under-sampling techniques to balance dataset, and used appropriate metrics such as accuracy, precision, recall, and F1-score
- Executed logistic regression with various tuning parameters and decision tree classifiers on the dataset to achieve a F1 score of 0.95

CompressFile | Text File Compressor

[Jun '23]

- Ensured lossless compression of large text files and retrieval of contents of the files using Huffman Encoding-Decoding Algorithm
- Deployed a website using HTML,CSS and Javascript achieving an average compression rate of 43% with ratio being more for larger files

COMPETITION/CONFERENCE

Inter Hall Data Analytics | General Championship

[Mar '23]

- Estimated the risk level of an automated manufacturing unit using data from 25 sensors and predicted state of unit every 10 minutes
- Preprocessed the time-dependent data set of 50,000 samples recorded by each sensor every minute, to find any correlation in data
- Achieved an accuracy of 89% after applying a Conv2D model and parameter tuning, getting an average F1-score of 0.84 on the test data

Inter Hall Product Design | General Championship

[Mar '23

- Designed a product that could collect **EEG data** from brain using electrodes and classified **stress levels** quantitatively and qualitatively
- Proposed K-nearest neighbors to classify stress on a scale of 0-100 using input features in time, frequency, and synchronicity domain

SKILLS AND EXPERTISE

Programming Languages: C | C++ | Python | HTML | CSS | Javascript* | Java* Libraries: STL | Git | MATLAB | TensorFlow | NumPy | Pandas | Matplotlib | Sklearn | Keras | ReactJs* | Bootstrap* Tools: Jupyter Notebooks | Overleaf | Google Collab | VS Code (*Familiar)

AWARDS AND ACHIEVEMENTS

- Secured an All India Rank of 1252 in JEE Advanced 2021 (i.e. top 0.8 percentile) and achieved 99.7 percentile in JEE Mains 2021
- Chosen for the prestigious INSPIRE Scholarship 2021, awarded by the Department of Science and Technology (DST), MoST, India
- Secured an All India Rank of 122 in the renowned West Bengal Joint Entrance Examinations (WBJEE), in a pool of 1 lakh+ candidates
- Selected in the state merit list of National Talent Search Examination and first stage of KVPY SA stream amongst 1 lakh+ candidates

COURSEWORK INFORMATION

Mathematics: Probability and Statistics | Combinatorics and Graph Theory | Stochastic Processes | Modern Algebra | Linear Algebra **Computer Science:** Theory of Computations | Programming and Data Structures | Machine Learning Specialization(MOOCs)

POSITIONS OF RESPONSIBILITY

Governor | Communique | Technology Students' Gymkhana IIT Kharagpur

[Jan'22 - Present]

Part of 6 executives of Soft Skills & Personality Development Society | 27 events, 8 collaborations | Budget of INR 1.6 lakhs

- Led and trained a team of 36 associates and conducted Global Model United Nations'23, with 200+ participants from all over India
- Handled the corporate relations and onboarding of sponsors for GMUN'23, garnering funds amounting to INR 1.2 lakhs

Associate Member | GES Intern | Entrepreneurship Cell | IIT Kharagpur

[Jan'22-May'23]

• Organized Global Entrepreneurship Summit, a 4-day annual corporate summit, with participation of 3000+ students across the country

• Conducted Local Startups Meet'22 Kolkata, hosting 100+ Startups and 10+ Investors, onboarded local sponsors and media partners

Executive Head | Consultant | 180 Degrees Consulting

[Jan'22-May'23

- Connecting with 35+ potential clients from Health and Enterprise Tech Start-Ups as part of the Client Acquisition and Strategy Team
- Led 5 diverse projects involving non-profits and startups, ensuring successful delivery and generating revenue exceeding INR 50k

EXTRA CURRICULAR ACTIVITIES

- Obtained the 3rd Runner Up position in the Inter Hall Case Study, General Championship amongst 21 halls held in IIT Kharagpur
- Secured 4th spot in the Inter Hall Ad-Design, General Championship amongst 21 halls organised by Technology Students' Gymkhana