

CHIRAYU MITTAL

ACADEMIC PROFILE

Degree/Certificate	Institution	Percentage/CGPA	Year
B-Tech	Ceramic Engineering IIT (BHU), Varanasi	7.77	2024
CBSE (XII)	Delhi Public School, Faridabad	84.40	2019
CBSE (X)	Delhi Public School, Faridabad	93.10	2017

SKILLS

Technical : Supervised and Unsupervised Learning Algorithms using TensorFlow, Keras, OpenCV, Sci-kit learn, NLTK, NumPy, Pandas & Matplotlib, React, Flutter

Languages : Python, C, Javascript, Dart, SQL, Tensorflow, Pytorch, C++

INTERNSHIP/TRAINING

Market Analyst - Axxela

20/05/23 - 15/07/23

Interest rate market fundamentals, Derivatives market prediction using mathematical modelling

- Researched SOFR 3-Months contracts, analyzed datasets, generated strategies achieving **75% win ratio**
- Researched **Black Scholes model** for derivatives, built related **mathematical model** from scratch to predict real time data, generating **90% leading predictions**. Compared the result with standard regression predictions
- **Preprocessed** data based on market trends, time frames and strategies, **automated signals and execution**

PROJECTS

Reshamandi Case study - Fibre Industry in India

- Analysed **Fibre Industry** in India for **Reshamandi**, aiming to identify entry points in lucrative market segments
- **Initiated** communication with a jute mill in Assam to identify and address critical issues within the **supply chain**.
- Devised a **market entry strategy** with focus on partnering with mills, efficient supply chain and **1.3X** profit margins.

CardioSentinel: Advanced Machine Learning for Heart Disease Prediction

- Designed and implemented a machine learning model in for predicting the likelihood of heart disease
- Conducted data preprocessing including handling **missing values**, **feature scaling**, and **encoding** categories
- Explored various machine learning algorithms, **Logistic Regression**, **Random Forest**, fine-tuning hyperparameters

NLP-Powered English to Spanish MT Advancement

- Developed a **neural machine translation (NMT)** model for English to Spanish translation using deep learning techniques
- Fine-tuned the NMT model using techniques such as **beam search** and **teacher forcing** to optimize translation output
- Further Implemented an **attention mechanism** to improve accuracy and capture context-aware word alignments

Backtesting Algorithmic Trading Strategy - Price action

Coded Price Action strategy, identifying Entry, Exits points and returns and Max. Drawdown

- Used Y-Finance historical data, identified Price action using pivot points. Mathematically modelled pivot points.
- Applied other technical chart patterns to improve probability of win ratio. Used Shooting start and hammer pattern
- Achieved an overall win ratio of **75+%**, further improved it through tuning parameters taking better entry

Canine Classifier: Deep Learning for Precise Dog Breed Recognition

- Designed and implemented a **convolutional neural network (CNN)** for the task of classifying **120** distinct dog breeds
- Leveraged transfer learning by fine-tuning pretrained models (**ResNet**, **Inception**) on the ImageNet dataset
- Experimented with custom CNN architectures, optimizing **layer depths**, **kernel sizes**, and **activation functions**

POSITION OF RESPONSIBILITY

Director - HULT Prize IIT BHU

1/08/2022 - 1/08/2023

- Led organizing committee, achieved **1.5 times** participation in local competition and **100% increase** in selection rate for global round of HULT Prize
- Initiated Accelerator program to build on ground startups, delivering sustainable growth and profitability
- Ensured funding for eligible enterprise, enabling growth of 5 startups. Derived a curriculum for further scaling

Mentor - Business Club

- **Mentoring 50+** business enthusiast students, helping them grow, improving the business culture of college
- Organised multiple workshops and activities in the group
- Resolved the doubts of freshers belonging to various domains like **Data analytics**, **Product Management**, **Economics**, **Supply Chain management and Consulting**

Event executive BASH

- Organised the event **Consultia** held under BASH 4.0
- Saw a participation of **600+** students from various colleges and reputed institutes like IIMs, BITS and IIT's.
- Involved in marketing, ensuring an increase in participation by **550%** compared to last year

HONOURS AND ACHIEVEMENTS

Inter-IIT Bronze || Silicon Labs

1 month

● Inter-IIT project – IoT based solution in Fem-tech sector

- Won the **Bronze Medal** at Inter-IIT Tech Meet 10.0, 2022 amongst **23 participating IITs**
- Innovated a Tech-led, IoT based solution for monitoring women's health, specially in rural population
- Analysed the **stakeholders** and devised an **end-to-end business plan** around the suggested innovation

National Finalist in IIM Calcutta Flagship event Veritas

- **Finalist(Top 8)** from over **500** participants from all over country including top B-Schools
- Analysed the Health-care sector of India and the prospects of technology in it and gave recommendations to the **CEO of Indegene**
- Devised **tele-health** solutions, giving a potential **11.6% growth** and plan to strengthen the **supply chain**

National Finalist in IIM Indore Flagship event Imperium

- **Finalist(Top 15)** amongst **1600+** candidates in Imperium, Atharv
- Analyzed the current **fintech sector** in India and how a new company can grow profitably in this sector
- Explored the rural potential in this sector and formulated a **Market Entry strategy** for the same

Silver - Inter-IIT Sports meet' 2022

Achieved silver medal in Hockey.

EXTRA-CURRICULAR ACTIVITIES

Silver - Inter-Hostel Hockey tournament

Won 6/8 matches

Qualified for Hacktoberfest – 2021

- **Worked under 2 projects**, interacted with the owners of those repositories
- **Self-assigned the work** and completed it under the deadline, got it reviewed as well
- Helped the fellow participants by clearing their doubts regarding submission

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