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

Skills

R, Python, Consulting, Tensorflow, ML, DL, JavaScript, React, Django

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

NLP Based Machine Translation with Attention Mechanism

-Developed a **neural machine translation (NMT)** model for English to Spanish translation achieving **72.7% accuracy**
- Fine-tuned the NMT model using techniques such as **beam search** to optimize translation output
- Further Implemented an **attention mechanism** achieving **82.05%** accuracy and capture context-aware words

SEM Particle size measurement (Under Dr. Kundan Kumar)   (Ongoing)

- Researched **SEM images** and particles, implemented **Hough transform** to find particle boundary , radius
- Studied **Yolov5** architecture for segmenting the images. Used **Skimage Library** to preprocess images
- Used **Transfer Learning** to train Yolov5 on custom input images, finetuned the hyperparameters

Twitter Sentiment Analysis

- Trained a **Support Vector Machine** on **16,000 Tweets** on an Indian Politics to classify them into 3 classes
- **Tokenized and lemmatized** the words and then used WordNet vectorizer to convert text to vectors
- Made predictions on **1000+ Tweets** with an **accuracy of 83.5%**, further fine tuned hyperparameters.

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

POSITION OF RESPONSIBILITY

Director - HULT Prize IIT (BHU)   1 Year

- Achieved a **2X** increase in participation from last year in HULT Prize regionals.
- Conducted first ever KeyNote session and Training sessions aimed at fostering on-ground growth for startups.

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 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

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