



**Uday Aggarwal**

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## **POSITION OF RESPONSIBILITY**

**Investment team member** (*Finance club, IIT Bombay*)

- Working with a team of 30 students with a vision to create student-run fund at the institute level, learning and discussing various financial concepts, trading strategies, investment opportunities and results
- Selected amongst the institute-wide pool of applicants by preparing a mock portfolio of equity stocks, through fundamental analysis of companies in various sectors, with a long term investment horizon.

## **KEY PROJECTS**

**Stock market forecasting using Deep Learning**(*Institute Technical Council, IIT Bombay*)

- Developed a stock market forecasting system utilizing deep learning techniques, including LSTM models and leveraged Keras, a high-level neural network library, to implement and train the model effectively.
- Collaborated with a team of four members to acquire historical stock market data using yahoo finance and preprocessed it through data cleaning, normalization.

**Weather App with API Integration** ( *Self project* )

- Developed a responsive weather application using HTML, CSS, and JavaScript, providing users with both location-based and search-driven weather information.
- Integrated with the OpenWeatherMap API to fetch real-time weather data, and designed a user-friendly interface to display weather conditions, including temperature, wind speed, humidity.
- Implemented geolocation functionality to enable users to retrieve weather information based on their current location.

**Password Generator** (*Self Project* )

- Developed a password generator web application using HTML, CSS, and JavaScript.
- Implemented robust password generation algorithms, incorporating character shuffling and customizable strength settings to promote user security.
- Designed a visually appealing user interface with sliders and checkboxes for ease of use.

### **Analyzing Option Pricing Models and their Accuracy** ( *Finance Club, IIT Bombay*)

- Implemented the Black–Scholes model on Microsoft Excel to calculate the option prices of the NSE NIFTY50 index options across multiple strikes and compared prices of the same in NSE option chain.
- Examined 4 option trading strategies - Straddle, Strangle, Delta Hedging and Butterfly spread.
- Calculated implied volatility for single expiry of out of the money call/put options to plot Volatility Smile

### **E-commerce website Development** (*Institute Technical Council,IIT Bombay*)

- Built an interactive e-commerce website using React.js.Utilized 'Link' components of react to create hyperlinks for efficient navigation.
- Implemented Redux for efficient and centralized state management in the e-commerce application.Employed Redux actions and reducers to manage state transitions, enabling seamless updates to the UI based on user interactions and API responses.

## **TECHNICAL SKILLS**

Programming Languages and skills : Python, C, C++, R, JavaScript, CSS, HTML, React.js, Node.js, Express.js, Mongodb, Data structures and algorithm