	Tarunsai Goddu	190070024
	Electrical Engineering	**B.Tech.**
	Indian Institute of Technology Bombay	**Gender: Male**
		DOB: 9/28/2001

Examination	University	Institute	Year
Graduation	IIT Bombay	IIT Bombay	2023
Intermediate	CBSE	MP & EV High school	2019
Matriculation	SSC	Narayana High school	2017

SCHOLASTIC ACHIEVEMENTS

- Achieved **99.90 percentile** in Joint Entrance Examination Mains among **1.2 Million candidates** *(2019)*
- Achieved **99.57 percentile** in **IIT JEE Advanced** among **0.2 Million candidates** across India *(2019)*
- Secured **All India Rank 556** in **KVPY** and received the prestigious fellowship by **IISc-Bangalore** *(2018)*
- Placed in **National Top 1 %** in the National Standard Examination in **Physics (NSEP) - IAPT** *(2018)*

PROFESSIONAL EXPERIENCE

Oracle Corporation | *Software Development Intern* | *Data Resiliency Checks* *(May'22 - Jul'22)*

- Developed software for **periodic and automated validation** of the relevant customer usage **information data**
- Validation to ensure that **integrity** is achieved by cross-checking many metrics on both ends of the **data pipeline**
- Setup an **email trigger** which alerts the concerned authority in case of inconsistencies found in metrics computed
- Designed a dashboard and included key metrics that help developers to view statistics of customer usage information

AT&T Global Business | *Data Scientist Intern* | *Digital Assistant* *(May'21 - Jun'21)*

- Developed a chatbot application using **Rasa framework** for automating statistical, analytical & FAQ based queries
- Applied **Tensorflow embedding** pipeline for understanding user input; extracting **intent & entities** of the query
- Used **dynamic SQL** queries & pandas for extracting and analyzing data to produce a suitable response to the user

IIM Bangalore | *Research Internship* | *Prof. Anirudh Dhawan* *(Nov'20 - Dec'20)*

*Received a **Letter of Recommendation** from the professor for exemplary performance during the winter internship*
- Performed **sentimental analysis** on RBI statements and correlated with **abnormal swings** in the stock market
- Tested **long-short strategies** on historical NSE stock data; a value-based strategy yielded a **16.4%** annual return

KEY PROJECTS

Blockchain-Based Voting Solution | *SLP, IIT Bombay* *(Aug'21 - Nov'21)*

- Developed an end-to-end **decentralized voting** platform to organize secure elections using the **Azure Blockchain**
- Applied the concepts of **cryptography** to ensure the anonymity of voters on a public blockchain during the election
- Constructed the front-end using **Angular** and implemented the service to encrypt and decrypt votes using Python

Automatic Speech Recognition System | *Signal Processing, Course Project* *(Aug'20 - Nov'20)*

- Built a Speech Recognition system using vector quantized **Codebook Matching** and **MFCC feature extraction**
- Achieved **75.89% accuracy** on clean set and **47.65% accuracy** on noisy set of Google Speech Commands dataset

Option Pricing Models & Their Accuracy | *Manch 4.0, Deutsche Bank* *(Jan'21 - May'21)*

- Delved into types of **Options & Pricing methodology** to analyse drivers that explain the **pricing behaviour**
- Achieved an accuracy of **78%** through **Neural Networks** against the Black Scholes Model of the accuracy of **58%**

Algorithmic Trading System & Dashboard | *Algorithmic Trading, Self Project* *(Jan'22 - Mar'22)*

- Designed and deployed a **Trading system** with a Python codebase on the **AWS Cloud** for optional 24/7 uptime
- Integrated **Zerodha** KiteConnect **REST APIs,** autonomously placing **options** orders, using the generated triggers
- Effected a **GUI** with configurable models like **LSTMs, ARIMA** and displayed the **live results** in the dashboard

IITB-RISC Processor | *Processor Design, Course Project* *(Mar'22 - Apr'22)*

- Designed **16-Bit, 6-Stage Pipeline processor**, based on Turing-Complete Instruction Set in VHDL from scratch
- Programmed 14 Instructions including branch, arithmetic, & memory interface; tested it on **Altera Nano FPGA**
- Implemented a **6-stage pipelined processor** with Branch Predictors, Priority Encoders and the Hazard Detection

Social Networking Website | *ITSP IIT Bombay, Team Leader* *(Mar'20 - Jun'20)*

- Developed a **Social Networking Website** with features of a Chat, News Feed, and Posts aimed at college students
- Implemented a feature of **Auto Delete** of the posts in the News Feed after all the **targeted users** have viewed it
- Designed the front-end of the website using **CSS & HTML** and the back-end using **MySQL Connector & PHP**

OTHER PROJECTS

Cricket Score Board Simulator | *Microprocessors, Course Project* *(Mar'21 - Apr'21)*

- Programmed a dynamic Cricket Score Board simulator on Embedded C using **Keil μVision and Flip Software**
- Made the Simulator interactive with the help of **USB to UART** adapter & demonstrated it via 16x2 LCD Display

Cryptocurrency Arbitrage Bot | *Self Project* *(June 2021)*

- Developed a **Crypto Arbitrage Bot** to execute trading strategies between Perpetual Protocol and FTX exchange
- Designed an **MEV front-running bot** to identify and execute the sandwich trades from the **Ethereum mempool**

Anomaly Detection in Time Series Data | *Self Project* *(June 2021)*

- Preprocessed **S&P 500 Index** data to design and train **LSTM autoencoder** using **keras** to detect anomalies
- Created interactive charts and plots with **Plotly** and **Seaborn** to analyze the data and sudden change in prices

Art Generation with Neural Style Transfer | *Self Project* *(July 2021)*

- Implemented neural style transfer in TensorFlow using **VGG19 architecture** for merging content and style image
- Computed content cost function using one hidden layer's activations and style cost function using the **Gram matrix**

Twitter Sentiment Analysis | *Self Project* *(July 2021)*

- Handled the **Twitter API** for scraping tweets for analysing and categorising content like date, source, & retweets
- Performed sentiment analysis on scraped tweets using Textblob, which uses NLP to categorise tweets into 3 polarities

POSITIONS OF RESPONSIBILITY

Associate Placement Coordinator | *Institute Placement Team, IIT Bombay* *(Jul'21- Dec'21)*

*Part of a **20-membered** managerial team, Executed the end-to-end operations in an online campus placement season*

- Strategized and accomplished the entire **recruitment process** for **400+ firms** which impacts **1900+ students**
- Handled **10+ International firms** as a single point of contact | Organized **100+** Tests, **50+** Pre-Placement Talks
- Led team of **200+** Interview coordinators for smooth execution of **8000+** online campus interviews over 15 days
- Schemed & achieved **250+** PPO's from 180+ firms with a **65%** y-o-y Increase | Being **25%** of the overall recruitment

Institute Sports Convener | *Institute Sports Council, IIT Bombay* *(Apr'20 - Mar'21)*

Part of a 3-tier Sports Council contributing towards ideation, logistics and execution of various institute sports events

- Pioneered a novel portal for **IPL Fantasy League** with **1200+** students' participation and **16K+** fantasy teams
- Organised Virtual Run witnessing **1.5k+ runners**; raised INR 15K for Rahat, **COVID relief** campaign by Goonj
- Conducted the Aavhan Online Chess open 2.0 with a prize fund of **INR 100K** with **550+** participants across India

TECHNICAL SKILLS

Programming Languages	Python, C/C++, JavaScript, Julia, Java, Embedded C, VHDL
Web Development	HTML, CSS, PHP, SQL, Bootstrap, Web 3.0, Django, Flask
Data Science	TensorFlow, PyTorch, Keras, OpenCV, SciPy, NumPy, Pandas
Software	MATLAB, Git, LaTeX, NgSpice, GnuPlot, Docker, Quartus Prime

KEY COURSES UNDERTAKEN

Electrical Engineering	Signal Processing, Digital Systems, Control Systems, Processor Design, Probability & Random Processes, Communication Systems, Microprocessors, Power systems
Mathematics	Linear Algebra, Differential Equations, Complex Analysis, Markov Chain
Finance	Financial Markets, Trading Algorithms, Trading Basics, Private Equity & Venture Capital, Python & Statistics for Financial Analysis, Intro to Trading, ML & GCP
Online Courses	Data Structures & Algorithms - Princeton Univ, Machine Learning - Stanford Univ, Data science - IBM, ML for Trading - NYIF, Deep Learning - Deeplearning.ai

EXTRACURRICULAR ACTIVITIES

Sports	- Represented Andhra Pradesh **State Cricket team** in the South Zone, Inter-State U-16 tournament - Selected for highly competitive **Inter IIT Cricket** Camp consisting of top 25 players in the institute - Bagged **Gold medal** in Excelsior Cricket, Inter college cricket tournament, held at Dadar, Mumbai
Technical	- Developed API for **English Primer League** stats and **Verified** Discord Chat Bot for Cricket stats - Mentored and guided the **25+ students** across the Institute Technical Summer Project (ITSP)
Social	- Organized E-Cell **Virtual Stock Market** Event targeting **1500+ students** across the pan India - Assisted in creating a **Virtual platform** resembling the institution for the **online convocation**
Interests	- Football (Manchester United), Cricket, Travel, Photography, Voluntaring, Algorithmic Trading