Piyush Tibarewal **170050001**
Computer Science & Engineering **B.Tech.**
Indian Institute of Technology, Bombay **Gender: Male**
DOB: 04-02-2000

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	null

Pursuing *Honors* in **Computer Science and Engineering**.

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 37** in **JEE Advanced** and **All India Rank 14** in **JEE Mains**. (2017)
- Qualified **National Standard Examination in Physics, Chemistry and Junior Science**. (2015,2017)
- Qualified for **INMO**, Indian National Mathematics Olympiad, conducted by HBCSE. (2015,2016)
- Recipient of the **NTSE Scholarship** and **KVPY Fellowship** granted by Government of India. (2015,2016)
- Stood **Champion** in **9th All India UCMAS Abacus and Mental Arithmetic Competition**. *(2009)*

PROJECTS AND INTERNSHIPS

Quantitative Researcher — Quadeye Securities LLP *Summer 2020, Remote Internship*

- Developed a hybrid **linear model** by using **order imbalance and custom features** on Order Book data.
- Achieved **0.19** correlation between the generated signals and 5 sec return and **0.08** correlation for 60 sec return.
- Studied basic indicators such as **RSI, MACD and Bollinger Bands** to integrate them in the linear model.
- Implemented **pairs trading strategy**, testing both cointegration and distance methods to optimise profitability.

Autonomous Underwater Vehicle (AUV) *Guide: Prof. Leena Vachhani* *Autumn 2017 - Present*
AUV-IITB is an all-student team working on the design and development of an AUV, **Matsya**. Our team were the **joint winners** of the NIOT-SAVe competition among 18 universities. We are also collaborating with Larsen & Toubro Pvt. Ltd. to build an **ROV to be deployed in seawater** for scanning and maintenance.

Software Subdivision Head: *Autumn 2019 - Present*
- Accountable for **managing and setting goals** for a team of 8 developers and coordinating with other divisions.
- Responsible for designing, maintaining and developing the overall **software stack** of the vehicle.
- Assisted in the **planning and execution** of the preparations for **NIOT-SAVe** and handled the **navigation** part.

Software Engineer: *Autumn 2017 - 2019*
- Implemented a more robust **mission planner** which deals with dynamic selection of tasks.
- Designed a **driver** architecture to handle **multiple processes**, to read-write from one port using locks.
- **Modeled the velocity** of the vehicle using the PWM data by training on various complex neural networks.
- Developed a **Tuning Interface** for the controller using **QT** and **Robot Operating System** (ROS).

Other Internships and Projects

- **Internship at Emotix**: Interpreted the source code of an **open-source system monitoring** software called **Monit**, and customised it to fetch the active services and their corresponding details using **REST API** in C.
- **Stock Price Forecast**: Experimenting on **stock prices history, sentiments polarity and subjectivity, N-grams, customized text-based features** in addition to **features lags** to predict the stock prices.
- **Battleship Game**: Developed a web based application using the **server-client model** for the classic game Battle-Ship which supports **real time** rendering of the game against any other player online.
- **Humour Detection**: Implemented a **LSTM** to detect humour on Yelp dataset to achieve **77.5%** accuracy.
- **Slidecast**: Developed an application from scratch which **records** keystrokes and audio synchronously while recording a lecture, and using that as our metadata, also **recreates a video like** experience for the student.
- **Blockchain Technologies**: Studied the **Proof of Stake** algorithm and **Sidechains** on **Cardano** platform.
- **Gameplay Optimisation**: Designed a strategy for general strategy games using **Racket** language which used **PSO** (Particle Swarm Optimization) algorithm to evaluate optimal use of resources in efficient manner.

POSITIONS OF RESPONSIBILITY

- **Department Academic Coordinator**: **Leading** a team of **31 mentors** to increase academic outreach and **counsel** 150 students. Facilitating regular interaction between faculty and students to help adapt to the online ecosystem.
- **Institute Student Mentor and Department Academic Mentor**: Responsible for **guiding** 6 sophomores and incoming freshmen in their academic & co-curricular pursuit.

Scholastic achievements and extracurricular activities are not verified by the Placement Cell