Rathour Param Jitendrakumar | **190070049**
Electrical Engineering | **UG Second Year**
Indian Institute of Technology Bombay | **Male**
DOB: 07/10/2001

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	9.24

Pursuing **Honours** in **Electrical Engineering**
Pursuing **Minor** in **Computer Science & Engineering**

Scholastic Achievements

- Secured **All India Rank 926** in **JEE Advanced** among 161 thousand candidates *(2019)*
- Secured **99.9%** percentile in **JEE Main** among 1.1 million candidates *(2019)*
- Recipient of the National Talent Search **(NTS)** Scholarship given by NCERT to 1000 students of country *(2017)*

Positions of Responsibility

Trainee | IIT Bombay Racing *(Spring 2020)*
A cross-functional team of students which designs, fabricates and assembles an Electric Race Car for Formula Student UK
- Explored the **LV Safety** subsystem, the **Shutdown Sequence** of the car and its elements
- Investigated the **Electronic Control Unit** (ECU) subsystem, working with **RPM** and **position sensors** and realised the working of the steering, acceleration pedal and the brake sensors with **Arduino IDE**
- Acquired the knowledge of **Controller Area Network** (CAN) and **Data Acquisition** (DAQ) systems and their implementation, wrote code for wireless communication using **LPC1768 Mbed** microcontroller and XBee

Editor | Department Newsletter Team *(Ongoing)*
Background Hum: Team of 20 enthusiastic students *(Electrical Engineering Student Association, IIT Bombay)*
- Ideated and working on an overview of exciting labs in the department
- Preparing content recommendations of scientific and engineering marvels to inspire curiosity among readers

Teaching Assistant | Computer Programming and Utilization *(Ongoing)*
Guide: Bhaskaran Raman *(Computer Science and Engineering IIT Bombay)*
- Academically guiding 13 students, clearing their doubts through personal interaction
- Created a webpage containing practice problems and relevant resources to enhance understanding of course

Key Projects and Bootcamps

Distributed Deep Learning *(Summer 2020)*
Institute Technical Summer Project (ITSP) *(Institute Technical Council, IIT Bombay)*
- Developed a **Hierarchically Distributed Deep CNN** to parallelise workload across nodes in the system
- Utilised the model to implement better training on Super-High-Resolution Datasets via **spatial segmentation** of sample and observed increases in **training speed** and decrease in **memory utilisation** per node
- Compared the performance of **VGG16, ResNet**, and **DenseNet** when used as the underlying neural network

Self Irrigation System *(Summer 2020)*
Tinkering Bootcamp, Learner's Space (LS) *(Tinkerers' Laboratory, IIT Bombay)*
- Developed a system using Arduino IDE, which toggles according to readings from a DHT1 humidity sensor
- Manual **control** and **data monitoring** through **Blynk App** by projecting real-time data to Blynk servers

Data Analytics Bootcamp by Analytics Club & **Tinkering** Bootcamp by Tinkerers' Laboratory
Scientific Computing Bootcamp & **Quantum Computing** Workshop by Maths and Physics Club

Key Courses Undertaken

Electrical	Signal Processing, Digital Systems, Microprocessors†, Control Systems†, Power Engineering†, Analog Circuits, Electronic Devices and Circuits†
Computer Science	Logic for Computer Science, Introduction to Machine Learning†, Matrix Computations†
Coursera	Deep Learning Specialization (deeplearning.ai), Algorithmic Toolbox† (UC San Diego)

Technical Skills

†*to be completed by April 2021*

Languages	C++, Python, Julia, HTML, CSS, LaTeX, SQL
Frameworks & Libraries	NumPy, SciPy, SymPy, pandas, seaborn, scikit-learn, OpenCV, PyTesseract, TensorFlow, Keras, PyTorch,Selenium, Beautiful Soup, PyAutoGUI, Jekyll, Qiskit
Softwares	Git, MATLAB, Simulink, EAGLE, LTspice, Quartus, AutoCAD, SOLIDWORKS
Hardwares	Arduino, ESP32, Raspberry Pi 4, Krypton, VHDL

Extracurriculars

Technical *(2019-2020)*	• Built a **RC Bot** capable of negotiating obstacles and designed, made a **RC Trainer Plane** • Completed Summer of Science in **Nonlinear Dynamics** by Maths and Physics Club, IIT Bombay
Social Volunteer *(2019-2020)*	• Volunteered for Career Counselling Campaign and A Session on Climate Change for 12,000+ underprivileged students from 8^{th} to 12^{th} conducted by **Abhyuday** in association with **NCC** • **Mentored** students appearing for JEE during **COVID-19** crisis as part of **CovEd Education**
Misc. *(2019-2020)*	• Studied **Beginner Music Theory** as a part of Summer School of Cult conducted by ICC • Completed a year-long **training program** as **NCC Cadet** under 2 MER NCC at IIT Bombay