Prakhar Diwan   180100083
Electrical Engineering   **UG Second Year**
Indian Institute of Technology Bombay   **Male**
                                     DOB: 05/08/2000

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2020	9.31

Scholastic Achievements

- Pursuing a **Minor** degree in **Computer Science**
- Granted **Branch Change** to **Electrical B.Tech** for exceptional academic performance in first year [July'19]
- Secured All India Rank **702** among **0.22 million** candidates in JEE Advanced 2018 [June'18]
- Achieved All India Rank **540** among **1 million** candidates in JEE Mains 2018 [April'18]
- Awarded **SBI Scholar** Fellowship which is given to meritorious children of SBI staff [July'18]

Professional Experience

Research Intern | Insulation Diagnostics Lab, IIT Bombay [Dec'19-Jan'20]
Guide Prof. S. V. Kulkarni, Electrical Engineering Department
- Simplified Mathematical Modeling and Simulation of **Wire-Electrical Discharge Machine** was done
- Modelled its three subsystems: **Pulse Generator**, **Servo Motion Control**, and **EDM Process Model**

Key Projects

Machine Learning-assisted Image Segmentation for SEM images [Oct'19-Present]
Guide Prof. Vikram Vishal and Debanjan Chandra, Earth Sciences Department
- **Feature Extraction** and **Random Forest Classifier** were implemented in **MATLAB**

8-bit CPU Construction [Nov'19-Present]
Guide Prof. Virendra Singh, Electrical Engineering Department
- Building an **FPGA** which features a **CPU** similar to **Atmel ATmega8**

Circuit Simulator [July'19-Nov'19]
Guide Prof. Himanshu J Bahirat, Electrical Engineering Department   *Course Project*
- Calculation of the **Conductance Matrix** and **Injection Current vector** for Node Voltage Analysis

Parallel Program Development and Analysis [Sep'19-Dec'19]
Guide Prof Virendra Singh
- Construction of **parallel** codes for **C++** programs with **CUDA** extension and analysis of execution time

Technical Skills

- **Programming Language:** C, C++, Python, VHSIC Hardware Description Language (VHDL)
- **Softwares/Platforms:** MATLAB, AutoCAD, SolidWorks, NGSpice, Xcircuit, EAGLE, Simulink, CUDA

Positions of Responsibility

Junior Member | Controls Subsystem [Oct'19 - present]
Team Hyperloop, IIT Bombay
- Part of a 30 member team involved in designing and building a functioning prototype pod for **SpaceX's Hyperloop competition**
- Performing **Suspension** and **Vibration analysis** of pod and **stabilizing** motion using **Feedback control**
- Exploring modes to propel the pod forward and controlling motion on curves using **Linear Induction** and **Synchronous Motors**

Robowars Coordinator [Oct'19 - Jan'20]
Techfest , IIT Bombay
- Managing the development of **automated** hammers to be used in arenas for the first time in India
- Executing India's **Largest International Robowars | Budget: 4 Million | 15+ International teams**

Extra Curricular Skills & Achievements

- Demonstrated the **SPI Communication Protocol** and it's**applications**, in the MHRD-TEQUIP-III KITE **Immersive Pedagogical Workshop** conducted at **IIT Bombay** during October 2019
- **Online Learning Initiative** (OLI): Constructed educational videos related to secondary education with the help of **MS office** and its **Mix** extension; under the National Service Scheme (NSS)
- **Adult Literacy Program** (ALP): Conducted English teaching sessions for mess workers of Hostel 7, IIT Bombay under the National Service Scheme (NSS)
- Reached **quarterfinals** in **CBSE Lawn Tennis Clusters** (West Zone) 2013-14 held at Aurangabad