Sudhir Shinde | **173109009**
Mechanical Engineering | **M.Tech.**
Indian Institute of Technology Bombay | **Male**
Specialization: Manufacturing | **DOB: 05/05/1995**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2020	9.27
Undergraduate Specialization : Mechanical Engineering				
Graduation	Savitribai Phule Pune University	Dr. D. Y. Patil Institute of Technology	2016	79.67

Technical Skills

- **Languages:** C++, Python, MATLAB and R
- **Tools & Libraries:** PyTorch, Tensorflow, Keras, Scikit-learn, OpenCV, Git

M.Tech Research

Defeaturing of CAD models using Deep Learning *(M.Tech. Project, Advisor: Prof. S.S.Pande)* *(May'19-till date)*

- **Objective:** To extract features from CAD model and study its effect on Finite Element Analysis simulation
- Developing system to generate 10K 3D models with topological features & extract it using **3D CNN**
- Aiming to reduce simulation computational time using **autoencoder** and **principal component analysis**

Application of Machine Learning in CAD/CAM *(M.Tech. Seminar, Advisor: Prof. S.S.Pande)* *(Jan'19-Apr'19)*

- Studied research papers proposing applications such as feature recognition, defeaturing of CAD models

Course Projects

Machine Learning based Image Classification System (*Foundations of Machine Learning)* *(Jul'18-Nov'18)*

- Developed the shirt classification system using **KNN, SVM, CNN** with **Scikit-learn** and **TensorFlow** libraries
- Achieved **accuracy of 84%** for all the classes using **AlexNet** architecture as a base framework

GPU accelerated implementation of ML algorithm using CUDA (*High Performance Scientific Computing)* *(Jan'19-Apr'19)*

- Achieved speed up of **3.5X** for regression and **2.5X** for classification as compared with serial code

Neural Network based Classifier (*Foundations of Machine Learning)* *(July'18-Nov'18)*

- Implemented NN architecture using **NumPy, Pandas** library and trained using Back Propagation Algorithm

Technical Projects

Development of ML Algorithm for Flood Prediction (*Microsoft Codefundo++)* *(Jul'18-Oct'18)*

- Dataset gleaned from Indian meteorology websites comprised of features like historical rainfall, location & altitude
- Successfully completed all three stages and implemented web application on Azure Cloud Services

Mahindra Rise Driverless Car Challenge (*Innovation Cell, IIT Bombay)* *(Dec'18-Apr'19)*

- Part of a team of **20 members** aiming to build Self Driving Car; India's **1st** driverless car
- One of the **11 finalists** out of 259 teams (IV Level) and received a **Mahindra E2O Car** for further development

Work Experience

CEAT Ltd, Vadodara *(Graduate Engineer Trainee)* *(Jul'16-Jul'17)*

- Worked with design and product development team to provide analysis led design solution
- Increased **productivity by 5%** through implementing projects such as **optimization** of tire and its components

Positions of Responsibility

Mentor ITSP, IIT Bombay *(May'19-July'19)*

- Guided **8 students** on the topics OCR recognition, handwritten character recognition using **Deep Learning**
- Provided the basic training of Python and Machine Learning to students

Campus Ambassador, InterviewBit *(May'19-till date)*

- Organized coding competitions to help students for campus placement preparation

Achievements and Extracurricular Activities

- Secured **Gold level** position in the **2019 WorldQuant challenge** organized by WorldQuant VRC *(2019)*
- Achieved **Rank 1 on Kaggle** among 112 students for Machine Learning Challenge *(2018)*
- Secured **Department Rank 1** among 210 students of UG 2016 batch *(2016)*
- Secured **Department Rank 3** in Diploma of 2012 batch *(2012)*
- Scored **99.31** percentile in GATE 2018 ME among **194,496** candidates *(2018)*
- Attended 3 days **GPU** bootcamp using CUDA conducted by **NVIDIA** *(2019)*
- Volunteered for **Python Workshop** conducted by PG Academic Council *(2018)*
- Completed **Neural Networks and Deep Learning** course by DeepLearning.ai on Coursera *(2019)*