Sarvesh Mehtani   **170050107**
Computer Science & Engineering   **UG Third Year (B.Tech.)**
Indian Institute of Technology Bombay   **Male**
Specialization: ML, AI, Finance, Analytics   **DOB: 10/05/1999**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2020	9.01
Intermediate/+2	CBSE , New Delhi	Bhavan Vidyalaya, Panchkula	2017	95.40
Matriculation	CBSE , New Delhi	Bhavan Vidyalaya, Panchkula	2015	95.00

ACADEMIC ACHIEVEMENTS

- **All India Rank 1** in **JEE Advanced** out of **2.2 lakh** students   (2017)
- **All India Rank 55** in **JEE Main** out of **1.2 million** students   (2017)
- Received **Gold Medal** for being placed among the **top 35** students in **INChO**, HBCSE   (2017)
- Attended **Orientation-Cum-Selection Camp for IMO**, HBCSE (amongst **top 35** in India) (2016)
- Secured **2 AP grades** (given to top 1% students) in courses **Calculus** and **Chemistry Lab** (2017-18)
- Among **Top 3** students selected for Semester Exchange to **National University of Singapore** (2019)

KEY PROJECTS

Machine Learning to Scale-Up Combinatorial Optimization Solutions   Summer 2019
Dr. Deepak Ajwani | Research Project   *University College Dublin*

- Engineered a framework using **scikit-learn** to **scale up** existing **NP-Hard** Optimization Algorithms
- Worked on scaling **K-Median Solver** by **pruning input dataset** using **Random Forest Classifier**
- **Explored** various **Geometric Features** to use for training the Classifier

Socket Programming   Spring 2019
Introduction to Computer Networks | Course Project   *National University of Singapore*

- Implemented a **TCP Server** facilitating insertion, updation & retrieval of Server Database
- Developed a **reliable one-way chat** program built over an **unreliable UDP channel**
- Handled **Corruption & Packet Drop** using **Check-sum Verification**

Blood Film Classification   Winter 2018
Self Project

- Used **TensorFlow** to train an **Autoencoder** on 30,000 128x128 blood film images
- Used **Convolutional Neural Network**, **Max Pooling** and **Softmax** to train neural network
- Integrated trained **Auto-Encoder** with **Classifier** for **Adversarial Image Classification**

Secure Personal Cloud   Autumn 2018
Software Systems Lab | Course Project   *IIT Bombay*

- Implemented a **cloud based file storing system** for Linux & Web with custom encryption schema
- Used **Hybrid Encryption Schema** (RSA+AES) to implement **encrypted file-sharing**
- Used **Server Client Modelling** and **Socket Programming** to support & **synchronize multiple clients** simultaneously
- Applied **Block Level File Encryption** such that only client can encrypt-decrypt data from server
- Used **Django** for implementing back-end & **React JS** for implementing web-front-End of the system

PoolCars   Spring 2019
Database Systems | Course Project   *National University of Singapore*

- Engineered a web-based **Car Pooling Application** using **PostgreSQL** & **Node.js**
- Developed an interactive front-end with **password authentication**, bidding & reviews
- Designed an **ER Data Model** with multiple Entities, Relationship Sets & **Triggers**

PhotoArt   Spring 2018
Abstractions and Paradigms for Programming | Course Project   *IIT Bombay*

- Developed an Image Editing tool in **Racket programming language** and created related **GUI**
- Implemented Image Filters like **Gaussian Blur**, **Grayscale and Hue Variation**
- Developed user utilities like **Crop, Rotation, Superposition** and **Undo** for user convenience

SAT Solver   Spring 2018
Abstractions and Paradigms for Programming | Course Project   *IIT Bombay*

- Solved SAT problem in scheme, using **Davis-Putnam-Logemann-Loveland (DPLL)** algorithm
- Implemented a **backtracking-based search** algorithm deciding satisfiability of **PL formulae** in **CNF**

RegEx Identifier   Spring 2018
Abstractions and Paradigms for Programming | Course Project   *IIT Bombay*

- Implemented a program in **Scheme** for **String-RegEx matching**
- Used **Tree** Data Structure for converting RegEx to **Deterministic Finite Automaton (DFA)**

AWARDS AND SCHOLARSHIPS

- Received **Aditya Birla Scholarship**, given to only 15 engineering students in India   (2018)
- Received **KVPY Fellowship** with **AIR 38** organized under DST, **Government of India**   (2016)
- Received **NTSE Fellowship**, NCERT under Ministry of HRD, **Government of India**   (2015)
- Received **Shri. C. Subramanium Award for Excellence in Character** by **Bhartiya Vidya Bhavan** (more than 70 schools in India)   (2015)

POSITIONS OF RESPONSIBILITY

Social Secretary   Autumn 2018
Computer Science Department   *IIT Bombay*

- Responsible for **planning and executing** all social events for **1000+ students** of CSE department
- **Promoting interaction** among students from various batches as a part of **CSEA council**

Teaching Assistant   Autumn 2018
BB101-Physical and Medical Biology under Prof. Ambarish Kunwar   *IIT Bombay*

- Among the 20 students selected for **teaching** a class of **500 1st-year students**
- **Mentoring** the academically struggling students and catering to students' course-related queries
- Coordinating with Biology Dept. to **conduct regular tutorial sessions** & **evaluate exam papers**.

TECHNICAL SKILLS

Programming Languages	C++, Python, Java, Bash, AWK, SWI-Prolog, Scheme, MIPS
Web Development	Django, Node.js, HTML/CSS, Bootstrap, PHP, JavaScript, Sockets.io
Software Skills	SQL, TensorFlow, Scikit-Learn, Android Studio, MATLAB, CMake, Passport.js, LaTeX, GIT, COQ, AutoCAD, SolidWorks, Arduino, Numpy

COURSES UNDERTAKEN

Data Structures and Algorithms	Data Analysis & Interpretation	**Computer Architecture***
Database Systems	Logic for CS	**Operating Systems***
Design & Analysis of Algorithms	**Optimization***	Computer Networks
Economics	Linear Algebra	Differential Equations
Remote Sensing and Image Processing	**Artificial Intelligence & Machine Learning***	**Network Security & Cryptography***

* marked courses will be completed by Nov 2019

EXTRACURRICULARS

- Part of **Institute Contingent** that secured **2nd position** at **Inter-IIT Culturals Meet**
- Completed a year long course under **National Service Scheme** (NSS) IIT Bombay involving **teaching students at an NGO** and **recording Hindi Audio Books**, as part of Voice for Purpose
- **1st position** in **District Level Chess Championship** in Panchkula
- **1st position** in the **Wolf of the Wall Street Competition** which simulated a **Live Stock market**
- Engineered an **app-controlled bot** and a **Remote Controlled Plane** from scratch