

## ACADEMIC ACHIEVEMENTS AND SCHOLARSHIPS

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- Secured **98.65** percentile in **JEE Advanced** (IIT-JEE) out of **150,000** candidates (2016)
- Secured **Rank 226** in **MHT-CET** (Maharashtra Common Entrance Test) out of **400,000** candidates (2016)
- Recipient of the **NTSE** (National Talent Search Examination) Scholarship by N.C.E.R.T New Delhi (2014)
- Secured **All India Rank 40** in **International Olympiad of Mathematics** (2012)
- Secured **District Rank 1** in Maharashtra Talent Search Examination (2012)

## INTERNSHIPS

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### Software Intern, MAQ Software

(May-July'19)

*MAQ Software delivers innovative software solutions for Fortune 500 companies*

- Worked on the localization of **Pehla Class** which is based on Onecourse, an award-winning educational **Android** application
- Developed Python scripts to automate application localization for supporting Hindi language
- Worked on the UI of the CCI, a learning Android application for children

### Software Development Intern, GreatFour Systems

(December'18)

*GreatFour Systems is an innovative product development company specializing in automation solutions*

- Tested limitations of tools **PDFlib**, **Tabula** and **Camelot** for detection of tables in PDF file
- Designed an **OpenCV** algorithm for detection of tables in **Medical Leaflets**

### Machine Learning Intern, SmartMedics

(May-July'18)

*SmartMedics is a technology driven healthcare platform integrating offline and online access to healthcare*

- Worked on developing a health assistant that uses real data, **Machine learning** and **Neural Networks** to predict the specialist a patient must consult based on the data entered by him
- Used **Python NLTK** library for **Natural Language Processing** to process the problem description entered by patient and extract important details from text
- Designed a **Django** based Web application for doctors

### Product Development Intern, Toppr

(December'17)

*Toppr is an online learning platform, personalizing K-12 education*

- Helped building high-quality learning content like **questions** and **concepts**
- Improved the quality of content by analysing and making them **error-free**
- Helped team in building various **tests** by analysing current **curriculum** and previous year **question papers**

## COURSE PROJECTS

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### Online Evaluation Web Application

*Database and Information Systems*

*Guide: Prof. S.Sudarshan*

(Autumn'18)

- Developed a **ReactJS** based web app providing features like viewing answer sheets and marks of exam to students and features like scanning and grading answer sheets to instructors and teaching assistants
- Integrated **SSO Login** of IIT Bombay in the app
- **Java Servlets** ran backend application logic on **Apache Tomcat** Server and **Postgresql** served as DBMS

### Neural Networks Library

*Artificial Intelligence and Machine Learning*

*Guide: Prof. Ganesh Ramakrishnan*

(Autumn'19)

- Developed a deep-learning library from scratch, having modules of **Fully Connected Layer**, **Convolution Layer**, **Pooling layer** along with an appropriate loss function for backward propagation
- Used the built library to design a neural network architecture and tested it on **MNIST** and **CIFAR-10** datasets

### Python based Electrical Circuit Simulator

*Software Systems Lab*

*Guide: Prof. Kavi Arya*

(Autumn'17)

- Developed a compact electrical circuit simulator using **Python** and **Jython** for creating a Java-based GUI
- Used functions from **SymPy** and **SciPy** to solve the differential equations
- Generated a graph between various parameters based on the input signals using **Matplotlib**

## Compiler for a pointer language with C like semantics

Guide: Prof. Uday Khedkar

Compilers

(Spring'19)

- Implemented **lexical analyser**, **abstract syntax tree** and **symbol table** for effective translation to **assembly code**
- Provided support for boolean and arithmetic operators, nested conditional statements and function calls

## Railway Signal Controller

Guide: Prof. Supratik Chakraborty

Digital Logic Design

(Spring'18)

- Implemented and simulated the model using **VHDL** with backend implemented on **C**
- Used **FPGALink** library for transfer of data via a USB cable between the host and the FPGA board
- Implemented **TEA encryption** to secure the messages sent over channel

## Tetris Game

Guide: Prof. Amitabha Sanyal

Programming Paradigms

(Spring'17)

- Built a graphical game of **tetris** using the **Racket** programming language
- Implemented **heuristic algorithm** to hint the player which move should be played at each turn to reduce number of empty spaces in accumulated blocks
- Used teachpack **universe.rkt** to provide functionality for creating interactive and graphical programs

## OTHER PROJECTS

### Dogs vs. Cats Image Classification

Guide: Prof. Ganesh Ramakrishnan

Artificial Intelligence and Machine Learning

(Autumn'19)

- Implemented a **Multi-Layered perceptron** model and **VGG16** model in **TensorFlow** for classification of image as dog or cat
- Achieved accuracy of around **97%** for **VGG16** model and around **75%** for **Multi-Layered perceptron** model

### Gravity Simulator

Prof. Amitabha Sanyal

Programming Paradigms

(Spring'17)

- Developed N-Body simulation of particles due to mutual gravitational force acting on them using **Racket** Programming language
- Implemented **Barnes-Hut** algorithm using list comprehension and trees to reduce the complexity of problem

## KEY COURSES UNDERTAKEN

- **Machine Learning:** Artificial Intelligence & Machine Learning, Foundation of Intelligent & Learning Agent\*, Natural Language Processing\*
- **Computer Science:** Data Structure and Algorithms, Computer Networks, Database and Information Systems, Operating Systems, Implementation of Programming Languages, Digital Logic Design, Computer Architecture, Computer Graphics, Logic for Computer Science, Wireless Networks
- **Mathematics:** Discrete Structures, Numerical Analysis, Linear Algebra, Differential Equations, Data Analysis & Interpretation

[\* - to be completed by Dec 2020]

## TECHNICAL PROFICIENCY

- **Data Analysis and ML:** Tensorflow, NumPy, SciPy, Pandas, MATLAB, Octave
- **Programming Languages:** C++, C, Python, Racket, Java, Bash, Prolog, SQL, VHDL
- **Web and App Development:** Android Studio, React, Django, HTML, CSS, Javascript, Java Servlets/JSP, XML
- **Softwares/Others:** Wireshark, ISE Design, AutoCAD, Git,  $\text{\LaTeX}$

## POSITIONS OF RESPONSIBILITY

### Mess Secretary | Hostel - 8, IIT Bombay

(August'17 - April'18)

- Elected by an electorate of about **400 hostel inmates** to mandate and maintain mess
- Responsibly optimized mess budget of **INR 8 million**

### Operations Coordinator | Entrepreneurship Cell, IIT Bombay

(June'17 - February'18)

- Managed infrastructure in events of **E-Summit** and induced publicity for the same
- Spearheaded a team of **10 organizers** for the logistics and administration to execute events

### Services Coordinator | Mood Indigo, IIT Bombay

(May'17 - January'18)

- Executed **infrastructure** and **goods** need to make Mood Indigo a successful event
- Mobilized with **4+** event management companies and **15+** top decorators to bring best deal out of them

## EXTRACURRICULARS

- Participated in **Kavyasandhya** General Championship (Inter Hostel poetry recitation competition) (2017)
- Completed an intermediate level **Bootcamp on Entrepreneurship** (2017)
- Successfully completed one year as a **Bandminton** Player under National Sports Organisation (2016-17)
- **Runner-up** in music video competition of Freshmen Cultural festival, IIT Bombay (2016)
- Volunteered in **Techfest CURED** campaign to increase awareness about Diabetes pan Mumbai (2016)