



**Parth Laturia**  
**Computer Science & Engineering**  
**Indian Institute of Technology Bombay**

**180050071**  
**UG Third Year (B.Tech.)**  
**Male**  
**DOB: 14/05/2000**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	9.46

Pursuing Minor in **Applied Statistics and Informatics** and **Honors in Computer Science**

## ACHIEVEMENTS AND SCHOLARSHIPS

- Secured All India Rank **3** in **JEE Main Paper 1** out of approximately 1.2 million candidates (2018)
- Achieved All India Rank **29** in **JEE Advanced** amongst 163 thousand candidates (2018)
- Awarded **Gold Medal** for being placed among the top 35 students in **INChO**, HBCSE (2018)
- Recipient of the Kishore Vaigyanik Protsahan Yojana (**KVPY**) fellowship with All India Rank **103** (2017)
- Earned the National Talent Search Examination (**NTSE**) fellowship by NCERT, Government of India (2016)
- Successfully Completed Orientation-Cum-Selection Camp for **IAO**, HBCSE (amongst **top 35** in India) (2015)
- Awarded **Gold** certificate for securing All India Rank **4** in **Technothon**, hosted by IIT Guwahati (2014)

## KEY INTERNSHIPS & PROJECTS

**ATM's Predictive Maintenance** — *Process Development, Data Science* Ongoing  
 Guide: Prof. Siuli Mukhopadhyay Bank of Baroda

- Reviewed Literature on Classification based Failure Prediction and extracted Pattern based Features
- Building a "Smart ATM" based on Regression model and cross-validation that will pre-alert for serious faults

**Winning Notaktoe with Reinforcement Learning** — *RL, games* Summer 2020  
 Guide: Prof. Saul Blanco Indiana University, U.S.A

- Trained **UCB** based RL model from scratch using 1 **Million** games of self-play to maximise win in Notaktoe
- Incorporated Monte Carlo Policy using Every Visit Approach and NN **binarization** for space-time optimization
- Co-Author of a paper titled "How to play Notakto: Can reinforcement learning achieve optimal play on combinatorial games?" that got accepted at AAAI 2021 (amongst top 21% of all the submitted papers)

**Noise Filtering by Stethoscope** — *Machine Learning* Winter 2019  
 Ayudevices Private Limited IIT Bombay

- Executed **Recursive** Least Square and Least Mean Square Algorithm to filter out noises from the Heart sound
- Collectively Implemented **Deep learning RNN** model for classifying Heart beats as Normal or Abnormal

**MasterMind Solver** — *Optimization, Algorithms* Spring 2019  
 Guide: Prof. Amitabha Sanyal | Course Project Abstractions & Paradigms in Programming

- Enforced the 5-Guess and **Mini-max Algorithm** with Alpha-Beta Pruning in Mastermind using Racket GUI
- Incorporated **Genetic** Algorithm and **Functional** programming to return secret code for tougher game levels

**Question Bank Application** — *Backend Development, Programming Language* Autumn 2019  
 Guide: Prof. Amitabh Sanyal | Course Project Software Systems Lab

- Developed a **User-Authenticated** Question bank storing questions and involving Question Addition in **Django**
- Devised a Search and Filter Panel based on Question Tags with **Topic Hierarchy** using **Databasing** and **SQL**
- Incorporated **Paper generation** feature in the Bank along with exporting and downloading them as **PDF**

## Other Course Projects

- ◇ **XV6 System Development** (Prof. Mythili Vutukuru | Operating Systems) - Developed the Scheduling, Synchronization and Memory Management of Processes in XV6 OS entirely in C & X86 Assembly Language
- ◇ **Image Group Modeller** (Prof. Suyash Awate | Machine Learning) - Implemented **PC Analysis** technique on **3-channel image** data-set to develop its illustrative group-image from scratch and ensure Perfect Fitting
- ◇ **CS based Reconstruction** (Prof. Ajit Rajwade | Image Processing) - Implemented **ISTA**, **OMP** and **LASSO** techniques over 2D-DCT Basis and Haar Wavelet Basis to reconstruct the test images
- ◇ **Text Analyser in VHDL** (Prof. Virendra Singh | Logic) - Designed **Finite State Machine** based word counter & character repetition detector and tested the output positively using **Quartus**

## TECHNICAL SKILLS

**Programming** Matlab, C++, C, Python, Java, Bash, Racket, Prolog, VHDL, RStudio, QtSpim  
**Development** HTML, CSS, JavaScript, Django, ReactJS, NodeJS, Bootstrap, Beamer, L<sup>A</sup>T<sub>E</sub>X  
**Software Skills** Git, SolidWorks, Jupyter, Tensorflow, Wireshark, Numpy, Scipy, Pytorch, Matplotlib

## KEY COURSES UNDERTAKEN

Discrete Structures, Data Analysis & Interpretation, DSA, Regression Analysis, Advanced Image Processing, OS, AI & ML, Computer Architecture, Statistical Inference, DBMS\*, Automata Theory\*, Programming Languages\*

*\*to be completed by April 2021*