Pursuing **Minor** in Applied Statistics and Informatics

ACADEMIC ACHIEVEMENTS

- Secured **All India Rank 2343** in **JEE Main** out of **1.2 million** candidates (2017)
- Secured **All India Rank 2057** in **JEE Advanced** (IIT-JEE) out of **2.2 lakh** candidates (2017)
- Awarded **AP grade** in **Computer Programming and Utilization** course (given to top 9 students out of 472) (2018)
- **Changed Branch** from Civil Engineering to Computer Science and Engineering on account of exceptional performance. (2018)
- Secured a State Rank of 118 and International Rank of 790 in International Mathematics Olympiad conducted by SOF (2014)
- Achieved State Rank of 72 and Olympiad Rank of 792 in second level of International Olympiad of Mathematics by SilverZone. (2014)

COURSE PROJECTS

Killer Sudoku Puzzle Solver
Guide: Prof. Krishna S. April 2018

- Developed a **C++ class interface** to solve Killer Sudoku (combined sudoku and kankuro) using **recursion**.
- Used **Backtracking Algorithm** as the basis to generate solution to Killer Sudoku in optimal time.
- Increased efficiency of the code by applying **combinatorial logic constraints**.

Secure Personal Cloud
Guide: Prof. Soumen Chakrabarti Sept-Nov 2018

- Designed a cloud based system in which the user has complete control over encryption.
- Enabled client to encrypt-decrypt using **block level file encryption** and verifying **Message Integrity**.
- Developed a system for **synchronization** across clients and back up server data regularly
- Made an **Android Application** that supports the above features and mobile-friendly **web client**.
- Used **Sockets, Django, React, Linux Daemons, Android Services,Encryption schemes**.

EXTRACURRICULARS

- Completed 14km in 12 hours of Swimming in **Swimming Marathon** conducted in IIT Bombay (2018)
- Successfully completed one year under **National Sports Organization** in Swimming (2017-18)
- Completed a summer **Bootcamp on Introduction to Finance** (2018)
- Participated in a **Quiz Competition** held by the **Reserve Bank of India** in Mumbai Region (2014)
- Participated in Regional-Level **Drawing and Painting Competition** conducted by AISM (Association of ICSE schools of Maharashtra) (2011)
- Participated in World Scholar's Cup Debate Competition hosted by DemiDec (2012,2013)

OTHER PROJECTS

Audio Sensing Bot
Institue Technical Summer Project -IIT Bombay May-June 2018

- Programmed an **autonomous rover** capable of locating the direction of a sound source (a clap) and move towards it.
- Used **Multi-lateration algorithm** and **Time Difference of Arrival (TDOA)** to approximate the location of the sound source, based on sounds received in four microphones kept at a distance.
- Implemented the algorithm in Python as well as Arduino, and calibrated the code parameters for the rover to move accurately towards a fixed sound source.
- Used **ATMega Microcontroller (Arduino Nano)** and **Raspberry Pi 3** as control system, and used basic pulse detection microphone to estimate Time Difference of Arrival.

Chain Reaction
Self Project May 2018

- Developed a **C++ Class Interface** to simulate a chain reaction game for 2 players.
- Used **Mutual Recursion** to simulate the game and programmed appropriate end conditions for winning.

TECHNICAL PROFICIENCY

- **Programming Languages:** C++, C, Python, Java, Bash, LaTeX
- **Web Development Languages:** HTML, CSS, Javascript, Bootstrap, JQuery, PHP
- **Others:** Git, Make, MATLAB, Arduino, AutoCAD, Sed, Awk, Regex, Android Studio

COURSES UNDERTAKEN

- **Computer Science:**
  Data Structures and Algorithms*, Discrete Structures*, Data Analysis and Interpretation*, Software Systems Lab*, Computer Programming and Utilization
- **Mathematics and Statistics:**
  Calculus, Linear Algebra, Differential Equations, Introduction to Probability Theory*
- **Others:**
  Basics of Electricity and Magnetism, Introduction to Electrical and Electronics Circuits*

∗ To be completed by Nov'18

AREAS OF INTEREST

Algorithms, Data analysis, Graph Theory, Logic and Machine Learning