



Sarthak Mittal
Computer Science & Engineering
Indian Institute of Technology Bombay

200050129
B.Tech.
Gender: Male
DOB: 2/9/2002

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2024	

Pursuing **Honors in Computer Science** and **Minor in Machine Intelligence and Data Science**

SCHOLASTIC ACHIEVEMENTS

- Received **Quadeye Scholarship** (top 60 nationally) after 3-stage process focused on quantitative skills
- Awarded **AP** grade (top 7 out of 1400+) for exceptional performance in **CH105 Chemistry** course
- Secured **AIR 34** in JEE Advanced among 1,50,000 | Secured **AIR 261** in JEE Mains among 1.1million

INTERNSHIP EXPERIENCE

Language Modeling Intern | *International Workplace, Cambridge, UK* (May '22 - Jul '22)

International Workplace delivers globally accredited digital programs for occupational safety and health

- Used **pandas** in Python to analyse and group **1300+** content titles mapped to multiple objectives
- Implemented **prefix matching** and a **probability function** with **3 variables** to predict outcomes
- Deployed **language model** mapping newsfeed to learning outcomes as a **web API** using **Azure ML**

Software Development Intern | *Greatfour Systems, Hyderabad, India* (Dec '21)

A team of 60 developing Harmony, a platform to aid pharmaceutical companies in medicine development

- Utilised Python API for **OpenCV** and **MTM** in image resizing and multi-scale **template matching**
- Made multiple **algorithmic enhancements** to improve template to destination matching speed by **60%**

PROJECTS UNDERTAKEN

Algorithmic Trading | *Self Project* | *Learner's Space, IIT Bombay* (Jul '21)

- Designed trading strategies in **Python** and compared styles like **momentum** and **paired switching**
- Executed the algorithms on **SENSEX 30** data of 2009-2020 and achieved profit upto **160%** and **500%**

P2P Network Simulator | *Course Project* (Mar '22 - Apr '22)

- Implemented **socket programming** in **C++** to transfer files between clients using **TCP** connections

Unblock Car Puzzle Solver | *Course Project* (Feb '22)

- Encoded** unblock car puzzle into a **SAT** problem using **Z3Py API** and solved using **CDCL** algorithm

Image Segmentation via s-t Cuts | *Course Project* (Apr '22)

- Implemented image segmentation using **Boykov-Kolmogorov** algorithm on a **graph of superpixels**

SNAP Moodle | *Course Project* (Oct '21 - Nov '21)

- Designed a **MOODLE** with a **Django REST** framework for backend consisting of **models** for Users, Assignments and Courses and used **HTML** and **React JavaScript library** for an interactive frontend

Scotland Yard on a Grid | *Course Project* (Oct '21)

- Simulated 8×8 grid Scotland Yard using client-server **sockets**, **semaphores** and **concurrency** in **Java**

Introduction to App Development | *Web & Coding Club, IIT Bombay* (Jul '21)

- Utilized **Flutter SDK** integrated with **Android Studio** and **Dart** language as codebase to develop and debug **3 Android applications** on a virtual device including a calculator, a quiz app and a weather app

POSITIONS OF RESPONSIBILITY

Class Representative | *Dept. of Computer Science, IIT Bombay* (Aug '21 - May '22)

Teaching Assistant | *IIT Bombay* (Dec '21 - Jun '22)

Department Academic Mentor | *Dept. of Computer Science, IIT Bombay* (May '22 - Present)

TECHNICAL SKILLS

Languages	Python, C/C++, Java, Dart, LaTeX, VHDL, Assembly, Bash, Sed, Awk, Prolog
Data Science	NumPy, Pandas, Matplotlib, SciPy, OpenCV-Python, Scikit-Learn, AzureML
Development	Django, JS, HTML, CSS, React, Redux, PostgreSQL, Flutter, Android Studio
Software	MATLAB, Git, Quartus, Wireshark, Keil μ Vision, NS3, VTune, GDB, Docker

EXTRACURRICULAR ACTIVITIES

- Received **special mention** for exemplary voluntary work at NSS Green Campus, IIT Bombay ('20 - '21)