



# SAMYAK SIDDHARTH SANGHVI



## ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Computer Science & Engineering	Indian Institute of Technology Delhi	9.37
2023	MAHARASHTRA STATE BOARD OF SECONDARY & HIGHER SECONDARY EDUCATION	Alpha Junior College of Science and Commerce	92.00%
2021	MAHARASHTRA STATE BOARD OF SECONDARY & HIGHER SECONDARY EDUCATION	Kilbil St. Joseph's High School	93.20%

## SCHOLASTIC ACHIEVEMENTS

- Secured All India Rank **83** in **JEE Advanced 2023** amongst 180372 candidates
- Secured All India Rank **384** and a percentile score of **99.97** in **JEE Main 2023** amongst 1.14 million candidates
- Selected for **Orientation-cum-Selection Camp** for **International Physics Olympiad 2023** held at HBCSE, Mumbai
- Selected for national team of **Asian Physics Olympiad 2023** at Ulaanbaatar, Mongolia
- Awarded the prestigious **KVPY Fellowship** in 2021-22 with All India Rank of **27**
- Ranked among top **1%** in **National Standard Examination in Chemistry 2023** (precursor to IChO)
- Ranked among top **1%** in **National Standard Examination in Astronomy 2023** (precursor to IOAA)
- Ranked among top **1%** in **National Standard Examination in Junior Science 2019** (precursor to IJSO)
- Secured **First** Position in **Nation Level Chemistry Quiz CHEMENIGMA** by IISC Bangalore
- Ranked amongst the top **1%** in **Higher Secondary Certificate** Examination conducted by Maharashtra State Board
- Winner of Open House 2024** for Best UG Live Demo for IoT-based portable Biometric attendance system

## PROJECTS

- 5 Degree of Freedom FDM Printer (Prof. Sagar Sarkar)** (April 2024 - Ongoing) :
  - Created a pipeline to achieve **graphics** based multi-axis adaptive slicing to allow **support-less** overhang printing
  - Designed and implemented a method to identify, label and segment extrusions using **tessellation** based mesh.
  - Designed a fault detection interrupt pipeline and implemented a 2D to 3D **point cloud reconstruction** algorithm
- Quadcopter Control despite Motor Failure** (InterIIT Techmeet 2024):
  - Designed a **simulation environment** for quadcopter dynamics in Mujoco, ensuring realistic physics modelling.
  - Trained a **reinforcement learning** policy to ensure **stable hovering** and precise execution of basic navigation tasks.
  - Developed and Integrated failure detection and a **PID-based control** system for post-failure hover in PX4 stack
- Fake Resume Detection in a Batch** (October 2024) :
  - Performed coherence analysis across sections in resumes and letters of recommendation to evaluate alignment.
  - Implemented consistency checks to assign scores to individuals based on detected anomalies and deviations.
  - Modeled the batch as a graph, used community detection algorithms to identify clusters, and propagated scores.
- Co-Inventor of Portable Bio-metric Attendance System** (May 2024- Ongoing):
  - Integrated cloud access to securely store and manage attendance data, ensuring availability and scalability.
  - Led the cloud integration and database design, optimizing data storage and retrieval for seamless remote access.

## TECHNICAL SKILLS

- Programming Languages:** Python, MATLAB, C, C++, JavaScript, VHDL, JAVA
- Frameworks/Libraries:** PyTorch, Keras, TensorFlow, OpenCV, Hugging Face, Pandas, Numpy, Scikit-learn, Mediapipe, Mujoco
- Tools/Utilities:** Git, LATEX, Autodesk Inventor, SolidWorks
- Web Development:** HTML5/CSS3, React.js, Node.js, RESTful APIs, MongoDB, SQL

## EXTRA CURRICULAR ACTIVITIES

- Class Representative, House Working Committee** (June, 2024 - May, 2025)
- Designed and Manufactured a Combatant Robot** and participated in Robowars 2024 organized by Tryst IIT Delhi
- Designed and Manufactured a Multi Terrain Robot** and participated in Hurdle Hovers 2024 organized by Tryst IIT Delhi

## AREAS OF INTEREST

- Cybersecurity:** Participating in CTF competitions and studying cryptography
- Artificial Intelligence and Machine Learning:** Exploring applications across various domains
- Robotics:** Integrating hardware and software for autonomous systems and human-robot interaction