Sidharth Rao | Freshman at Cornell University, College of Engineering

(862) 703-9713 • sid@iamsrao.com • linkedin.com/in/sidharthmrao • iamsrao.com • github.com/sidharthmrao

Sidharth is primarily interested in Computer Science, Electrical and Computer Engineering, Robotics, Cybersecurity, server decentralization, and decentralized finance.

EDUCATION

Cornell University, College of Engineering (BS in CS & ECE) **August 2023 - May 2027**

Coursework: Object Oriented Programming and Data Structures, Differential Equations for Engineers, Multivariable Calculus for Engineers.

- Cornell Electric Vehicle Project Team (CEV) Software-Autonomy Subteam

Choate Rosemary Hall, High School Diploma - GPA: 4.35 **September 2019 – May 2023**

Coursework: Cryptography (Directed Study), Machine Learning, Autonomous Robotics, Competition Robotics, Modern Math and Research

- Lead Programmer and Technician in the Advanced Robotics Concentration, and Choate's FRC team.
- President of the Choate Aerospace Association (Planned meetings, events, contests. Managed finances.)
- JV Cross Country
- Concert Orchestra (Cello, First Chair)
- Captain of Pico CTF Cybersecurity Team, solved Web Exploitation, Binary Exploitation, Cryptography, Reverse Engineering problems and placed 14th Nationally in 2022 out of ~15000 competing students.

WORK EXPERIENCE

Robotics Engineering Intern - Cognite **June 2022 – August 2022**

- Created an acoustic gas leak detection system for Boston Dynamics Spot and integrated it with Cognite's data and robotics software platform.
- Used computer vision on the acoustic gas leak detection output to estimate likelihood of gas leaks.
- Demoed the product to the client team.

Regularly used Python, Linux (on SPOT, servers, and for development), Bash, Docker, Tensorflow (leak detection).

Lead Programmer, Technician - Choate FRC Robotics Team **September 2021 – May 2023**

Led the programming team of the FRC Wired Boars (7407). Helped in bringing the team to semifinals and winning the Innovation in Control award in its division at FRC worlds.

- Developed reliable robot code, incorporating Computer Vision for ball shooting and tracking, Gyroscopic Sensors and camera Fiducial-tracking for robot odometry (position tracking), and a variety of other sensors including color, IR, and more to handle the robot's inner mechanisms and game pieces.
- Developed a core library for the team and many other FRC teams to use across separate code-bases for different competitions (7407-Robotpy-Toolkit).
- Created a GUI to visualize and adjust robot autonomous pathing (AutoBoard).

Worked regularly with Python, Github, Linux (on the robot, for vision, and for development).

Software Engineering Intern - Rovicare **June 2021 – Jan 2022**

- Created a containerized API to allow fast, automatic extraction and transferring of data from scanned medical forms into databases using OCR, reducing the processing time of medical data intake of patients by over 90%.

Used Python, Flask, GCP Vision API, GCS, Docker.

Volunteer AI and Robotics Course Creator/Teacher - Robotics and Beyond **January 2021 – May 2023**

- Taught Elementary school students basic Python skills.
- Developed and taught a course in AI with Edge Computers and Tensorflow Lite to High School students.
- Taught a course in Machine Learning, and currently developing a robotics course.

COMPETITIONS, AWARDS, AND SCORES

- PicoCTF 2022, 14th Nationally out of ~15000
- Choate Rosemary Hall, Dean's List All Terms
- Choate Rosemary Hall, Excellence in Robotics
- ACT, 36
- BB&N 2023 Hackathon Winner
- FRC Worlds, Innovation in Control Award - Hopper Division
- AP Computer Science A, AP Calculus BC, 5