

# Sidharth Baskaran

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## EDUCATION

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### Liberal Arts and Science Academy High School

2018 – 2022

*High School Diploma*, GPA: 4.52/4.0

- Coursework: Physics C: Mechanics, Physics C: Electricity & Magnetism, English Literature & Composition, Government & Politics, Macroeconomics, Physics 1 (5), Physics 2 (5), Statistics (5), English Language and Composition (4), Calculus BC (5), World History (5), Computer Science A (5)

## EXPERIENCE

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### Research Intern - UT Austin Aerospace Engineering Department

June 2021 – August 2021

- Supervised by Prof. Maruthi Akella, Aerospace Engineering and Engineering Mechanics Department.
- Solved transcendental equations describing spacecraft flight.
- Used complex interpolation methods and Python libraries (SciPy, NumPy) and GNU Octave.

### Independent Research - Visual Informatics Group at UT Austin

July 2021 – Present

- Guided by Dr. Zhangyang (Atlas) Wang in the Electrical & Computer Engineering Department.
- Train and modify PyTorch deep neural networks on the Deep Plastic Surgery project for use on the Monster Project dataset and preprocess data with image processing routines.
- Wrote web scraper to aggregate artist renderings of childrens' monster drawings from website

## EXTRACURRICULARS

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### Science Olympiad Engineering

2016 – Present (Team Captain 2020 – Present)

- A national-level competition in which students prepare and compete in various science-based events ranging from life sciences to engineering ([soinc.org](http://soinc.org))
- Captain of the Nationals-qualifying LASA team since Spring 2020 and personal focus on engineering events (Engineering devices writeup: [sidbaskaran.me/static/writeup.pdf](http://sidbaskaran.me/static/writeup.pdf))

### Machine Learning Independent Study

April 2021 – Present

- Completed Coursera Machine Learning course and Deep Learning Specialization, along with self-study of Stanford's CS229 and CS231n courses in order to gain sound theoretical understanding of ML and applications

## PROJECTS

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### Optical Character Recognition

Summer 2021

- Used TensorFlow Keras and iPython Notebooks hosted in Google Colab to recognize handwritten digits

### Automated Science Olympiad Test-Offs | Google Apps Script/JavaScript

December 2020

- Google Apps Script project to automate the scheduling and distribution of over 20 team tryouts exams during the competitive season, minimizing human input and error

### Gravity Vehicle | Science Olympiad Engineering

August 2021 – Present

- A vehicle & launch ramp that uses potential energy to reach a target point as accurately as possible. See [Writeup](#) for more details

### Boomilever | Science Olympiad Engineering

August 2019 – May 2020

- A lightweight wood structure optimized for the best structural efficiency ( $\approx 1700$ ) within challenging design constraints, winning 9th place at the 2021 National tournament and 5th at the 2020 MIT tournament. See [Writeup](#) for more details.

## TECHNICAL SKILLS

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**Languages:** Java, C++, Python, JavaScript, HTML/CSS

**Tools/Frameworks:** Git, L<sup>A</sup>T<sub>E</sub>X suite, Jupyter Notebooks, TensorFlow, NumPy, Matplotlib, TailwindCSS, ReactJS