# Sohan Vichare

(408) 425-1030
sovicx@gmail.com
http://sovicx.com
Cupertino High School


## OVERVIEW

I am a high school student passionate about the intersection between robotics and data analysis software, such as computer vision. I spend most of my free time tinkering with robotics at our school's "roboshack," experimenting with code, or rehearsing for an upcoming play/musical.

## PROJECTS

**Assisting Search and Rescue Missions with Intelligent Drones Early 2015 to Present**

Built an autonomously controlled 3DR Y6 drone modified to hold a Raspberry Pi and Raspberry Pi Camera with the capability to identify and count people from above and guide these people to previously designated "safe" locations. Currently testing and optimizing person-detection code and building drone driver code.

**Ladder (iOS, Android, and Web Application) 2015**

Ladder is time-management application for high school students that divides a user's available homework time up in order to maximize his/her grades and focus. It does this by measuring distraction through a companion Pebble watch app and by analyzing datasets of the student's class difficulty and current grades. Check it out at: http://devpost.com/software/ladder-xcpubz

**Compiling an Immigration Report at Student Advisory Council for Congressional Representative Mike Honda Late 2015 to Present**

Currently working with a group of three other politically active teenagers to compile a report on issues regarding immigration in the 17th Congressional district and around the state. Will present to Congressional Representative Mike Honda along with a call to action midway through 2016.

## EXPERIENCE

**Team Captain of Cupertino High School Robotics Mid 2015 to Present**

As team captain of CHS Robotics, I lead a team of freshmen and sophomores to design, build, program (Java), and test a robot from scratch. In addition to this, I network with other nearby robotics teams to organize community outreach.

**Open Computer Vision (OpenCV) Late 2015 to Present**

My experience with the open-source computer vision library known as OpenCV includes HOG and haar cascade based person detection, in addition to training custom haar cascades.

**Algorithmic Pathfinding in a Dynamic Environment  Mid 2015 to Present**
Implemented the D*Lite pathfinding algorithm in C++ and Python based on this paper (http://idm-lab.org/bib/abstracts/papers/aaai02b.pdf) to guide a drone in an unfamiliar environment.

**iOS and Web Development  Early 2014 to Present**
I have iOS development experience in both Swift and Objective-C from building Ladder's iOS client application and a location-based social networking application, Glasses. In addition to this, I have designed websites for clubs which I am part of, including Speech and Debate (sdsite.paperplane.io) and Robotics (tinosurge.co.nf). Thirdly, I have experience using AngularJS and the Ionic Framework to build cross-platform applications.

## AWARDS

Stanford Proco Computer Science Competition Special Round 1st Place Winner — 2015

California Arts Scholar — 2015

Association of Computational and Math Modeling Gamma Prize Winner (top 15%) — 2015

## EDUCATION

Cupertino High School — 2014 - 2018

John Hopkins CTY Talent Search — 2014 - Present

Stanford Machine Learning (coursera.org) — 2015

## SKILLS

Pick up things quickly, hardworking, organized. Experience with R, Python, Java, Objective-C, Swift, AngularJS, HTML/Javascript, and basic C++. Strong presentation, speaking, and theater skills.