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. I spend my free time tinkering with robots at our school's "roboshack," experimenting with code, or rehearsing for an upcoming play/musical.

PROJECTS

Search and Rescue Missions with Intelligent Drones July 2015 to Present
Assembled an autonomously controlled 3DR Y6 drone. Modified it 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 controller code. Inspired by

Ladder (iOS, Android, Web, and Pebble Application) August to November 2015
Ladder is time-management application for high school students. It divides a student's available homework time in order to maximize his/her grades and splits it in a way to retain student interest. 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

Immigration Report at Student Advisory Council for Congressional Rep. Mike Honda September 2015 to Present
Currently working with a group of three other politically conscious high school students to compile a report on issues regarding immigration in the state of California, specifically the 17th Congressional District. Will present to Congressional Representative Mike Honda along with a call to action in May 2016.

EXPERIENCE

Team Captain of Cupertino High School Robotics August 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 to compete in the FIRST (http://usfirst.org) Robotics Competition. Additional responsibilities include networking with other robotics teams to organize community outreach to increase awareness about high school robotics.

Open Computer Vision (OpenCV) July 2015 to Present
I have experience with the open-source computer vision library known as OpenCV, specifically HOG and haar cascade based person detection in addition to training custom haar classifiers.

Algorithmic Pathfinding in a Dynamic Environment July 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 and this base implementation https://github.com/ArekSredzki/dstar-lite). Used algorithm's fast-replanting capabilities to guide a drone in an unfamiliar and dynamic environment.

iOS and Web Development Early 2014 to Present
I have iOS development experience in both Swift and Objective-C. Have built Ladder's iOS client application and a location-based social networking application, Glasses. Have designed websites for various clubs which I am part of, namely Speech and Debate (http://sdsite.paperplane.io) and Robotics (http://tinosurge.co.nf). 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 (website depiction of solution: http://aocmmsolution2015.github.io/)

EDUCATION

Cupertino High School — 2014 - 2018
John Hopkins CTY Talent Search — 2014 - Present
Stanford Machine Learning (coursera.org) — 2015

SKILLS

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