

# Joshua Koh

Junior at Dublin High School

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JK

## Objective

Enthusiastic and motivated high school student seeking to apply and nurture strong leadership and critical thinking skills in an internship program

## Education

### Dublin High School, Dublin CA

GPA 4.82

#### PLTW Principles of Engineering (2017-2018)

- Simple machines, Energy and Power, Statics, Kinematics, Machine Control

#### PLTW Computer Science Principles (2018-2019)

- Algorithms, Graphical User Interfaces, Mobile App design, Intelligent Behavior

### University of California San Diego, COSMOS

July - Aug 2018

#### Engineering Design and Control of Kinetic Sculptures

- Computer Simulations and Working Model 2D, Design and control of mechanical systems, Autonomous sculpture design and control

## Volunteer/ Work Experience

### Gael Force Academy Mentor, Dublin, CA

August 2018 - May 2019

- Developed a curriculum to teach robotics fundamentals to new members
- Coached participants on robotics design and construction

### Fallon Engineering Lab Mentor: Dublin CA

August 2016 - April 2018

- Built, designed and tested robots to teach Middle School Students
- Raspberry Pi control, motor encoder and reflectance sensor feedback

## Maker Experience

### VEX Robotics Competition

April 2016 - April 2019

- Lead Designer, builder, and programmer
- Used C++ to implement control loops, sensor feedback, autonomous operation and PID control
- Competed in World Championships 2017, 2018, 2019

### Smart Aquaponics System

August 2016 - January 2017

- Built an intelligent system to control and monitor water level, pH, temperature and light detection. Integrated sensors and probes in Raspberry Pi control loop
- Streamed and graphed data from sensors to web server for real-time visualization

## Skills

### Software Development

C++, Python, HTML, CSS, SQL

### Computer Aided Design

FreeCAD, Inventor, AutoCAD, Fusion

### Mechanical Design

VEX Competition Robot, Nerf Sentry Turret

### Graphic Design

Adobe Illustrator, Photoshop

### Video Production

DaVinci Resolve, Adobe Premiere

## Awards

### UCSD Gordon

### Engineering Leadership Award

COSMOS 2018

### Alameda County Science and Engineering Fair

Second Place 2017

### VEX Robotics Think

### Award for Autonomous Programming

World Championships 2017

State Championships 2019

### Monte Vista Speech and Debate

First Place, Prepared Speech 2017

## Extracurricular Activities

### Gael Force Robotics Club

President, 2019-2020

Team Captain, 2018-2019

### Dublin High Interact Club

PR Officer, 2018-2019