

# Khoi Nguyen

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## Education

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*September 2017 - June 2021*

University of California, Irvine: **Bachelor of Science in Computer Engineering** Cumulative GPA: 3.254

Dean's Honor List: Fall 2017, Winter 2017, Fall 2020

### Relevant Courses Completed:

Engineering Databases and Algorithms, Data Management, Organization of Digital Computers, Advanced C Programming, System Software, Compilers and Interpreters, Processor Hardware/Software Interfaces

## Personal Projects

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### Robotic Hand with Haptic Feedback

- Fabricated robotic hand using **Arduino** and motors controlled by LilyPad Arduino connected to flex sensors
- Designed and 3D printed robotic hand in **SolidWorks** in a tendon styled design to individually move fingers
- Utilized Servo and **SoftwareSerial** libraries in order to control motors and bluetooth connection
- Sensor readings from glove inputted as commands for implementation of rock-paper-scissors

### Automatic Irrigation System Simulation

- Mock irrigation system with Arduino device in **Python** to determine when to turn sprinklers on/off
- Performed hourly checks on humidity and temperature using DHT11 device alongside **CIMIS web API**
- Displayed results and sprinkler state on LCD screen using **rPI.GPIO** module to poll and generate interrupts
- Automatically translated data into xls file in order to record total water used vs humidity/temperature

### Messenger Application

- Implementation of messenger application based on a **client-server model** utilizing the C **Socket library**
- Added ASCII implementation of chess as a messaging option between clients
- Created a Graphic User Interface for clients using **widgets** and **OpenGL** including a working friends list

### Super Mario for Android

- Sidescroller game of Super Mario including enemies, powerups, and custom blocks rendered in **JFrame**
- Touch screen supported game using **Java** and **Tiles** with object collision being handled in **libGDX**

### Photo and Video Filter

- Application with photo and video filter with color saturation, RGB control, edge detection and other filters
- Able to dynamically process images using **dynamic arrays** and **linked lists** to support multiple image sizes

## Experience

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*December 2018 – April 2019*

**Officer** Filipinos Unifying Scientists in an Organized Network, Irvine, CA

Organized and led meetings that provided knowledge about Filipino culture with an emphasis on engineering activities such as designing a carrier for an egg to survive a fall and designing an electric skateboard

## Skills

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**Languages:** Python · Java · C · C++ · HTML · CSS · Javascript · mySql · SolidWorks · Matlab · OrCad

**Tools:** Linux · Windows · Android · Git · Microsoft Suite · Google Suite · Trello · Raspberry Pi · Arduino