Howard Wang

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EDUCATION

UC SAN DIEGO
BS in Computer Science
Expected 2021 | La Jolla, SD
Major GPA: 3.72

LINKS

Portfolio:// **h-wang.me**
Github:// **hwanggit**
LinkedIn:// **hwangprof**

COURSEWORK

Data Structures
Embedded Systems
ARM Assembly
Mathematical Modeling
Data Science and Analysis
Circuit Design and Analysis
Discrete Mathematics
Unix Scripting
Block-chain

SKILLS

Languages
Javascript • C++
Java • Swift • Latex

Software/Tools
Google Cloud • Firebase
Git Version Control • Unity

AWARDS

Top 3 out of 20
Placed 3rd out of 20 teams in
UCSD IEEE Quarterly Projects
Competition

Top 3 out of 25
Placed 3rd out of 25 teams in
Mayor's Youth Council
Hackathon 2017

PROJECTS

HACKEYE.IO | iOS App
July 2019 | San Diego, CA

- Developed finder app that discovers hardware projects for collaboration
- Designed custom UI pages and developed front-end features in Xcode/Swift
- Created location service to provide project suggestions based on proximity
- Got project data from Hackaday API and implemented full mobile pagination
- Tools: Swift, Xcode, CoreLocation, Hackaday API

EASY TOUR | Tourism Web App
March 2019 | Los Angeles, CA

- Developed an AI web app for Tourism that maps out your trip for you
- Implemented color-to-emotion model using Google Vision to tag Flickr photos
- Performed RESTful API calls and CRUD operations to JSON files using Node.js
- Rendered 3-D interactive map routes using HTML and MapBox GL JS
- Tools: HTML/CSS, Node.js, Google Cloud Vision, Flickr API, MapBox API

COURSEWORK | CSE 100 Advanced Data Structures
March 2019 - June 2019 | San Diego, CA

- Implemented full Huffman encoding and decoding algorithm using trees
- Implemented and trained KNN classifier using KD Tree and large text files
- Implemented multi-edge graph to store actor-movie relationships on IMDB
- Implemented and compared BST/BSA, BFS/DFS, Dijkstra, and A* algorithms
- Tools: C++, C, GDB, Vim, Valgrind

PI FOR PARKINSON'S | Medical Technology
January 2019 - March 2019 | San Diego, CA

- Lead a team of 3 in UCSD IEEE Quarterly Projects Competition Winter '19
- 3-D printed a medically assistive IoT device for Parkinson's Patients
- Used Raspberry Pi, python, servos to read from IMU and correct tremor
- Created clean and stunning dashboard to chart data from Firebase
- Tools: HTML/CSS, Node.js, Chart.js, Firebase, PIGPIO, Python

RESEARCH

SMARTFIN | Engineers for Exploration
April 2019 - June 2019 | San Diego, CA

- Mathematically modeled ocean wave behaviour using IMU data
- Developed wave direction model using Kalman filter and quaternions
- Used python machine learning to label surf data and filter out outliers
- Created Smartfin github wiki page to record research progress
- Tools: Python, Jupyter Notebooks

LEADERSHIP

QUARTERLY PROJECTS CHAIR | IEEE UCSD Branch
June 2019 - Present | San Diego, CA

- Proposed $4000 budget increase plan for 2019 granted by ECE Department
- Manage and mentor 30+ student teams to create innovative new products
- Order and deliver hardware parts to project teams in timely manner
- Gather company representatives and school professors to judge student teams