David Hacker
Curriculum vitae

PUBLIC PROJECTS

#60318 9450 Gilman Dr.
La Jolla, CA 92092-0100

☎ (805) 368-5071

✉ dmhacker@yahoo.com

⚡ https://dmhacker.github.io

SUMMER 2017

NodeJS, AWS Lambda, Heroku, FFmpeg

Alexa YouTube Skill

An unpublished skill that lets Amazon Alexa devices play audio from YouTube videos. The platform has over 200 downloads and was reviewed by the German tech channel Venix, which has over 10,000 subscribers.

SPRING 2017

Python, Linux

Omega2 System Utilities

Developed a custom monitor for the Omega 2+ computer, which displays network usage; total upload & download payloads; instantaneous upload & download speeds; and device uptime. Also included: a subroutine for converting the board's LED to a rainbow display.

SUMMER 2016

Python

Text Compression Experiments

Developed custom compression algorithm combining existing designs: Burrows-Wheeler transform, move-to-front transform, run-length encoding, Huffman encoding.

SPRING 2016

Java, Swing

Photorealistic Rendering Engine

Ray tracer with configurable options for a variety of features: vertex normal interpolation, Phong shading, ray reflection & transmission, balanced k-d tree generation, camera rotation, and anti-aliasing. Several threads are run in parallel to speed up image generation.

HONORS & AWARDS

AUG 2017	Eagle Scout Award
APR 2017	1st Place: Startup Weekend Conejo Valley 2017
MAR 2017	Honorable Mention: SIAM M3 Challenge (top 8% of teams)
SEPT 2016	National Merit Finalist
JAN 2016	3rd Place: MIT Zero Robotics 2015

EDUCATION

2017 – 2021	**Computer Science** BACHELOR OF SCIENCE *UC San Diego*

WORK EXPERIENCE

JUNE 2017 – SEPT 2017

MyGolfFaves

Application Developer

Used React Native to create iOS and Android apps for MyGolfFaves, a golfing discounts company. Directed production of the backend API.

JULY 2016 – JAN 2017

Blinks

Full Stack Developer

Improved the resource demands and efficiency of Blinks Android app. Created a backend to support Blinks iOS sticker subscription service using the MEAN stack, mLab, Amazon S3 and Cloudfront, and designed a corresponding admin panel.

MAR 2016 – AUG 2016

IndieU

Full Stack Developer

Redesigned the website for IndieU, a music streaming service for college students, involving numerous layout changes. Required knowledge of the MEAN stack and familiarity with Amazon's EC2 platform.

SOFTWARE SKILLS

LANGUAGES	Java, Python, JavaScript, C++, HTML, CSS, SQL, LaTeX
FRAMEWORKS	MEAN stack, Flask, Firebase, React Native, Materialize, Bootstrap