David Hacker

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Education

2017 – 2021 **Computer Science**
Bachelor of Science, 4.0
UC San Diego

Work Experience

June 2017 – Sept 2017

Application Developer @ MyGolfFaves
React Native, Expo XDE

- Created iOS and Android apps for MyGolfFaves, a golfing discounts company
- Coordinated production of the backend API routes to link with the frontend

July 2016 – Jan 2017

Full Stack Developer @ Blinks
MEAN stack, Materialize, Amazon S3, Heroku

- Added multi-threading to Blink's Android app to improve performance
- Created a backend for Blink's iOS sticker subscription service using Heroku, mLab, and Amazon S3
- Designed a corresponding admin panel using Materialize

Mar 2016 – Aug 2016

Full Stack Developer @ IndieU
MEAN stack, Bootstrap, Amazon EC2

- Redesigned the website for IndieU, driving nearly 20% more traffic to the site
- Improved IndieU's music streamer by optimizing song file delivery
- Oversaw the two Amazon EC2 instances running IndieU's platform

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)

Jan 2016 **3rd Place:** MIT Zero Robotics 2015

Projects

Fall 2017

Product Review Rater
Python, Gensim, Keras, Flask

- Developed machine learning algorithm to convert product reviews to product ratings on a scale from 0 to 5
- Trained 2 deep neural networks to learn semantic relationships between words
- Webscraped millions of Amazon reviews as training data for the networks

Summer 2017

Alexa YouTube Skill
NodeJS, AWS Lambda, Heroku, FFmpeg

- Created a skill that lets Amazon Alexa devices play audio from YouTube videos
- Downloaded over 200 times
- Reviewed by the German tech channel Venix, which has over 10,000 subscribers

Summer 2016

Text Compression Experiments
Python

- Developed custom compression algorithm combining existing designs
- Outperformed standard zlib compression in over 50% of input texts
- Implemented the Weismann score efficiency metric for determining strength of the compression algorithm

Spring 2016

Photorealistic Rendering Engine
Java, Swing

- Created ray tracer that can show light refraction and reflection
- Implemented k-d tree structure to quickly detect ray-object collisions
- Ran several threads in parallel to speed up image generation

Software Skills

Languages Java, Python, JavaScript, C++, HTML, CSS, SQL, LaTeX

Frameworks MEAN stack, Flask, Firebase, React Native, Materialize, Bootstrap