# 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

MyGolfFaves
*Application Developer*

• Created iOS and Android apps for MyGolfFaves, a golfing discounts company, using React Native.
• Coordinated production of the backend API routes to link with the frontend.

JULY 2016 – JAN 2017

Blinks
*Full Stack Developer*

• Improved the resource demands and efficiency of Blinks Android app.
• Created a backend to support Blink's iOS sticker subscription service using the MEAN stack, mLab, Amazon S3 and Cloudfront.
• 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.
• Performed routine server management, overseeing the two Amazon EC2 instances running IndieU's platform.

## SOFTWARE SKILLS

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

## PROJECTS

SUMMER 2017

NodeJS, AWS Lambda, Heroku, FFmpeg
*Alexa YouTube Skill*

• Created a skill that lets Amazon Alexa devices play audio from YouTube videos.
• Wrote detailed instructions allowing ordinary users to set it up.
• 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.
• Converted 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*

• Created ray tracer with various configurable features: vertex normal interpolation, Phong shading, ray reflection & transmission, camera rotation, and anti-aliasing.
• Implemented k-d tree structure to quickly detect ray-object collisions.
• Ran several threads 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 |