

Esther Zhao

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EDUCATION

Jun 2020 **Bachelor of Science, Computer Science, University of California - San Diego**
Provost's Honors, GPA – 3.85

EXPERIENCE

- Jun 2019 – Sept 2019 **Software Engineering Intern, Visa, Foster City, CA**
- Designed and implemented a **React** application to manage JSON metadata properties of Visa Checkout
 - Built **NodeJS** and **Express** backend server to integrate with existing property lookup API
 - Redesigned existing UI portal using interaction design principles to improve ease of use, resulting in 100% correct user flow for each task given
- Jan 2018 – present **CSE Tutor, Computer Science & Engineering Department, UC San Diego, La Jolla, CA**
- Analyze and debug students' code, and clarify programming concepts in **Java and C++** for Intro and Advanced Data Structures courses
 - Collaborate with professor and team of 10-25 to grade projects and lead review sessions for 300+ students
 - Host one-on-one private tutoring sessions to explain course material in more depth
- Sept 2017 – Dec 2018 **Graphic Designer, Muir College Student Affairs, UC San Diego, La Jolla, CA**
- Worked with **Adobe Illustrator** and **Photoshop** to create logos, merchandise, and marketing materials
 - Managed up to 3 projects per week dependent upon clients' requests
 - Projects produced contributed to raising over \$3,000 from 15% of sales for the 2018 John Muir College Scholarship by producing designs for college merchandise

PROJECTS

- Oct 2019 **Introspect (SD Hacks 2019) | JavaScript**
- On team of 2, built a web-based journaling application in less than 24 hours that tracks the mood of entries
 - Integrated Amazon's AWS Comprehend to perform sentiment analysis on text
 - Developed frontend with React and Material UI and built REST API for the backend and database using AWS S3, Express, and MongoDB
- Apr 2019 – Jun 2019 **Native Web Components | JavaScript**
- Lead sub-team of 5 within larger team of 12 to build a library of custom web components for the browser
 - Lead code reviews, organized internal and external documentation, and collaborated with team to manage a working pipeline for continuous integration and unit testing
 - Libraries/Technologies used: lit-html, LitElement, TravisCI, Test Café
- Feb 2019 – Mar 2019 **Raytracer | C++**
- Built a raytracer that renders images using recursive reflections, point/directional lighting, and shadows
 - Parsed scene file specifying object coordinate positions and applied linear transformations to find points of intersections between rays and surfaces
- Dec 2018 – Jan 2019 **Theta Tau LED Speakers | Python**
- Developed Python script to interface a WS2801 LED strip and Raspberry Pi upon startup through SPI connection
 - Took GPIO readings to reindex each LED light in a matrix to match the orientation of lights on the speaker
 - Created a drawing interface to simplify drawing letters and sprite images on the screen

SKILLS

Languages Java, C++, Python, C, ARM Assembly
Frameworks JavaScript, HTML, CSS, React, jQuery, LitElement
Other Node.js, MongoDB, Express, Material UI, Unix, Git, Unit testing, Vim, OpenGL