Esther Zhao

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EDUCATION

Jun 2020 **Bachelor of Science, Computer Science,** *University of California - San Diego*
Provost's Honors, GPA – 3.86

EXPERIENCE

**Jun 2019 –
Sept 2019** **Software Engineering Intern**, *Visa*, Foster City, CA
- Designed and implemented a **React** application to access and change metadata properties of Visa Checkout
- Built **NodeJS** and **Express** backend server to integrate with existing property lookup API
- Redesigned existing UI portal 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 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 & Material UI and built REST API to connect to 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 custom vanilla JavaScript web components
- Build and manage a working pipeline to incorporate continuous integration, unit and browser testing
- Libraries/Technologies used: lit-html, LitElement, TravisCI, Test Café

**Feb 2019 –
Mar 2019** **Raytracer | C++**
- Built a raytracer from scratch that renders images using recursive reflections, point/directional lighting, and shadows
- Parsed scene file specifying object and light coordinate positions and applied transformations to align camera and find points of intersections between rays and object 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
- Displayed dynamic custom messages in infinite scroll pattern using a sliding-window approach

SKILLS

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