TIMOTHY JAO

Software Engineer

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PROJECTS

***Mrs. Snaccman* (MongoDB, Express, React.js, Node.js, socket.io, CSS)** live | github

A multiplayer Pac-Man game

- Integrated socket.io to set up connections between multiple web clients and the back-end server which allowed for bi-directional communication and synchronization among players
- Created a shortest path algorithm using a variation of breadth-first search for the ghosts to chase Mrs.Snaccman
- Incorporated Agile development, daily Scrum meetings and git workflows which led to increased efficiency and streamlined communication

***Dunder* (React.js / Redux, Ruby on Rails, ActionCable, PostgreSQL)** live | github

A "The Office"-themed Discord-inspired messaging app

- Created RESTful APIs using Rails' MVC architecture that performed CRUD operations that were essential for the manipulation of front-end components
- Generated user authentication by connecting backend database-level validations and frontend components using AJAX calls to send and retrieve data
- Incorporated real-time chat between different users by employing Rail's ActionCable library (web sockets)

***Boo!* (JavaScript, HTML5 Canvas, CSS3)** live | github

A limited-vision survival game using Mario characters

- Leveraged JavaScript's asynchronicity and HTML5 Canvas's requestAnimationFrame command to create animations out of basic character sprites
- Utilized a shortest distance algorithm for the boos to chase Mario, a trigonometric function to create a flashlight effect and Object-Oriented Programming to implement gameplay and game logic.

EXPERIENCE

Electrical Engineer

FreshRealm August 2018 - February 2019

- Designed, built, tested and debugged pick-and-drop robots that automated food packaging processes and decreased assembly time by over 30%
- Planned, deployed and maintained RFID systems that tracked inventory and kept records of sales resulting in 10% decrease in waste and 8% increase in sales
- Wrote and modeled multiple procedural documents and CAD drawings integral for testing and development

Hardware Engineering Intern

Aerojet Rocketdyne June 2017 - December 2017

- Designed, procured and assembled a current and voltage regulation box for an electric propulsion system used in space travel
- Tested and debugged electronic boxes by following documented procedures and using common electrical testing tools
- Built a test rig and complementing harnesses to test-fire rocket thrusters

Software Engineering Intern

Jet Propulsion Laboratory June 2014- September 2014

- Analyzed over 40,000 images that were used to verify the performance of motion detecting software
- Created a parallel processor that utilized the multiple cores of a server to perform computational tasks faster using Java and bash script

EDUCATION

University of California, Los Angeles - *BS Electrical Engineering* October 2014 - Jun 2018

Relevant Courses: Intro to Computer Science, Computer organization, Machine Learning, Computer Networks

AppAcademy March 2019 - June 2019

Rigorous 1000-hour software development course with <3% acceptance rate. Topics include: Web-application development, TDD, Scalability, Algorithms, OOP, RESTful APIs, CRUD, React / Redux and SQL

SKILLS

JavaScript, Ruby, HTML, CSS/Sass, MATLAB, Python, C++, Node.js, React, Redux, Ruby on Rails, Linux