JASPER HUANG

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EDUCATION

University of Southern California, Los Angeles, CA, United States ***Grad 2021***

B.S. Computer Science

Relevant Coursework: Algorithms and Theory of Computing, Data Structures and Object Oriented Design, Software Engineering, Interneworking, Web Development, Computer Graphics, Computer Systems.

Presidential Scholar; GPA 3.41

SKILLS AND KNOWLEDGE

- Motivated self-starter, familiar with Javascript, Typescript, Java, Python, C#, PHP, SQL,.
- Web Service Architectures (Async, Client/Server, MVC, RESTful APIs) with Node.js and Express.js
- Relational (SQL) and non-relational databases (MongoDB).
- Front-end frameworks/component-based systems (React), state management and component lifecycles.
- Git Versioning (Github/Bitbucket), VSCode, Eclipse, PyCharm, MAMP, MySQLWorkbench.
- Object-oriented and functional programming paradigms.
- Strong Data Structures and Algorithms fundamentals.

PROFESSIONAL EXPERIENCE

Software Intern - Intertrust Technologies, Sunnyvale, CA ***2019 June - August***

- Developed testing framework for company's code obfuscation technology on self-developed 3D C# Unity games.
- Protected software against reverse-engineering and code tampering attacks by applying and testing code obfuscation, integrity protection, and anti-debugging, and anti-piracy techniques.
- Uncovered areas for performance optimization through designing performance benchmarking procedures.
- Prepared presentation for business team presented in Japan's Game Developer's Conference.

PROJECTS

Doozy Task Manager Web App [link]

- Single-paged web app developed with React.js, Node.js Express.js, and MongoDB.
- Developed algorithm that translates natural language into due dates and priorities to streamline the process of adding todo items.
- Optimized real-time server performance and scalability by minimizing calls to MongoDB.
- Improved user experience by implementing other features, including Google OAuth, smart lists and notifications.

Spotify Playlist Minifier Web App [link]

- Developed ranking algorithm for playlist songs integrating listening metrics from the Spotify Web API.
- Implemented Express Node.js server that authenticates user login requests via Spotify OAuth and uploads the user's listening metrics to a MongoDB database.
- Designed and developed single-paged user-interface with Javascript and HTML/CSS allowing users to manage playlists and access minified playlists.

Comic Relief Multiplayer Web Game [link]

- Single-paged web app developed with Javascript, the WebSocket API, jQuery, Node.js, Express.js, and HTML/CSS.
- Developed Express Node.js game server that creates and assigns concurrent game rooms and processes in-game events and logic through WebSockets.
- Configured game server to adapt to user disconnection events that would otherwise break gameplay.

Pathfinding Algorithm Visualizer [link]

- Educational tool developed in Javascript, HTML and CSS.
- Developed user-friendly UI providing visualizations of Greedy BFS, Dijkstra's Algorithm, A* Search, and Bidirectional A* using Javascript and CSS animations.
- Click and drag mechanic allows placing walls and weights to alter how the algorithms pick the shortest path between start and finish nodes.
- Ability to choose different simulation speeds allows viewing of each algorithm's execution in more/less detail.

WeatherPlanning Web App

- Developed a Java Tomcat server that interfaces with a Google Cloud MySQL database, encrypts any stored user information with RSA.
- Translated SRS requirements into technical specifications for my team to use.
- Wrote white box tests using JUnit and black box tests using Selenium and Cucumber that provided full coverage of the code base.
- Followed agile (scrum) processes over 3 two-week long sprints with small team of USC students, acted as scrum master and spearheaded sprint review process for my team.