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 3.44*

SKILLS AND KNOWLEDGE

- Product-driven full stack developer, familiar with Javascript, Typescript, GraphQL, Java, Python, PHP, and SQL.
- Software Architectures (Async, Client/Server, MVC, RESTful APIs, Publish/Subscribe), Node.js, Express.js, and Firebase.
- Front-end frameworks/component-based systems (React/React Native) and state management patterns (Redux)
- Complex, event-driven applications using functional programming paradigms (ReactiveX).
- Relational (SQL) and non-relational databases (MongoDB).
- Git Versioning (Github/Bitbucket), VSCode, WebStorm, Eclipse, PyCharm, MAMP, MySQLWorkbench.
- Strong Data Structures and Algorithms fundamentals.

PROFESSIONAL EXPERIENCE

Software Engineer Intern - PicCollage, Taipei, Taiwan   *2020 August - Present*
- Ideated, implemented, and tested features for a real-time collaborative collage editor with Typescript, React, RxJS, GraphQL, and Firebase using an in-house software architecture (*MDDV*) employing the Observer pattern.
- Contributed reusable classes, components, and utility functions along with tests, streamlining developer workflows for RxJS, Firebase and GraphQL.
- Hosted usability testing; elicited and implemented feedback to perfect new features, improving success rate and user satisfaction by roughly 15% after each session.

Software Engineer Intern - Intertrust Technologies, Sunnyvale, CA, USA   *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]
- Fully-fledged task manager web application developed with React.js, Redux, Node.js Express.js, and MongoDB.
- Developed algorithm translating natural language into due dates/priorities, streamlining 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.

Comic Relief Multiplayer Web Game [link]
- 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.
- 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 to place walls and weights to alter how algorithms pick the shortest path between start and finish nodes.
- Ability to choose different simulation speeds to view each algorithm's execution in more/less detail.

WeatherPlanning Web App
- Developed Java Tomcat server managing a Google Cloud MySQL database, encrypting user information with RSA.
- Translated Software Requirements Specification into technical specifications for my team.
- Wrote white box tests (JUnit) and black box tests (Selenium and Cucumber) with 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.