RAYMOND J. WANG

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EDUCATION

University of California San Diego   September 2021 – Expected June 2025
B.S. Computer Engineering   3.80 GPA

PROJECTS

DocsAfterDark — *CSS, JavaScript, HTML, Node.js*   January 2022 – Present
Browser Extension for Google Docs Customization
- Developed a browser extension with 120,000+ weekly users across Chrome, Firefox, Edge, and Opera
- Integrated browser APIs to handle real-time DOM manipulation, background scripting, and user preference storage
- Managed customer support across email, GitHub Issues, and extension storefronts, addressing user issues and feedback
- Designed a cohesive brand identity, including promotional artwork and homepage

Chesster — *CSS, TypeScript, HTML, Webpack*   June 2023 – August 2023
Chess Engine (AI) & Web Interface
- Engineered performant TypeScript chess engine, outperforming chess.js by 32x in move generation tests
- Implemented NegaScout & alpha-beta algorithms with variable depth, search visualization, and move history
- Leveraged Web Workers API to parallelize AI computations and enable a responsive and animated user interface

Treevia — *Node.js, React, Socket.IO, TypeScript, CSS, HTML, GCP*   January 2023 – March 2023
Real-Time Multiplayer Trivia Game
- Developed team-based multiplayer trivia game with lobby system and websocket networking
- Architected project foundation and automated CI/CD pipelines using GitHub Actions, GCP CE and Cloud Build
- Designed and implemented mobile-optimized host and player web clients

neu — *C++, OpenGL*   October 2024 – Present
3D Rendering Engine with Entity-Component System
- Implemented skeletal animation, including mesh skinning, vertex blending, and keyframe blending
- Developed a Newtonian particle physics system to simulate dynamic particle emitters and cloth dynamics
- Built a forward rendering pipeline with support for multiple light sources, instanced rendering, and shadow mapping

MMM — *Android, Java, Node.js, GCP*   April 2022 – May 2022
Java Android App and Node.js Backend Service
- Reverse-engineered private API endpoints to aggregate dining wait times in Cloud Firestore
- Developed Java Android app with Material Design 3, integrating Google Maps and Android OS APIs

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EXPERIENCE

Research Intern, Integrated Photonics Laboratory, University of Tokyo   June 2024 – August 2024
- Rewrote metasurface optimizer using shifted angular spectrum method and Adam optimization in Python, enabling hardware-accelerated machine learning integration

Executive Student Assistant, UC San Diego Transportation Services   December 2022 – June 2024
- Managed department website and its virtual forms, ensuring accuracy and legal compliance
- Led rework of department website, enhancing accessibility and user experience of its 80+ content pages
- Enhanced office efficiency by developing automation programs and deploying a website prototyping environment

Webmaster, IEEE @ UCSD Student Organization   October 2022 – May 2023
- Reworked TypeScript React webpage, reducing load times by up to 83% and enhancing mobile experience
- Created Firebase deployment and development preview workflow, managed domain records

Creative Officer, UCSD Esports Student Organization   February 2021 – September 2023
- Produced motion graphics, transitions, and digital artwork for social media and video productions

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SKILLS

Languages: C++, TypeScript, JavaScript, HTML/CSS, Java, Python, OpenCL, SystemVerilog
Frameworks & Tools: Node.js, React, Next.js, Docker, GitHub Actions, GCP, Cloud Build, Linux