David Yen

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SUMMARY

- Experienced Software Engineer with 9+ years in the industry. Proficient in JavaScript, TypeScript, Node.js, React, and Python.
- At Typeface, I developed new components for marketing and core websites and significantly improved performance. At Houzz, I led TypeScript-based refactoring projects and developed a unified search interface to enhance flexibility and usability. At Yahoo, I designed and implemented custom reporting tools and optimized report generation processes. At Dcard, I redesigned forum architecture and implemented features that drove substantial user growth.
- Recognized for innovative problem-solving skills, a strong commitment to code quality, and a focus on continuous improvement. I excel in both independent and team environments and continuously seek opportunities to expand my skills.

SKILLS

- **Programming Languages:** JavaScript, TypeScript, HTML, CSS, Python, SQL
- **Frameworks and Libraries:** React.js, Node.js, Express.js, Django, Flask
- **Tools and Technologies:** AWS, Firebase, Docker, Git, Webpack
- **Databases:** MongoDB, PostgreSQL, MySQL, Redis
- **Platforms:** Linux, Mac OS
- **Hardware:** Raspberry Pi, Arduino

EXPERIENCE

Senior Software Engineer at Typeface; Palo Alto, CA; November 2023 - Present

- Boosted performance by reducing the bundle size by 65%, implementing lazy loading, and enhancing overall page load speed and responsiveness, leading to a significantly faster and more seamless user experience.
- Optimized server efficiency by refactoring WebSocket connections, reducing server load and improving real-time communication performance, benefiting high-traffic scenarios.
- Enhanced search capabilities by designing and integrating a vector search system, improving user experience for content generation, template searches, and asset discovery using natural language processing.
- Led front-end development for the app homepage, focusing on core components, clean code architecture, and ensuring a responsive, maintainable UI.
- Collaborated with marketing teams to build and maintain new components for the marketing website, improving functionality, user engagement, and ease of content management.

- Contributed to the development of a Canva plugin for a pilot program, which played a key role in securing a high-value contract for the company by enabling brand-aligned content generation.
- Winner at Hackathon 2024, developing "Blend with Multi-channel Feeds Outputs," a feature that unified content from multiple channels, improving customer productivity and content management.

Software Engineer at Houzz; Remote; September 2021 - June 2023

- Led the refactoring of home feed components to support TypeScript, enhancing flexibility and reusability. These improvements allowed for components to be shared across different pages and teams, streamlining the development process and reducing redundant efforts.
- Developed the All Results page, which consolidated information from all platform sectors such as photos, products, professionals, and discussions into a unified, user-friendly interface. This innovation not only saved development time but also ensured interface consistency by leveraging the refactored components from the home feed.
- Integrated carousel displays from the distinct sectors of the platform into the photo page to foster cross-sector interactivity. The reusable components that I had previously developed expedited the development timeline and minimized potential issues.
- Improved the Largest Contentful Paint (LCP) on the photo page, thereby enhancing the website's loading performance and user experience.
- Enhanced the search dropdown window by incorporating additional content, including images and profile pictures, thereby enriching the user experience.
- Created reusable components and introduced A/B testing within the Prismic CMS system, facilitating data-driven enhancements and more efficient content management.

Senior Software Engineer at Yahoo!; Sunnyvale, CA; February 2017 - September 2021

- Led the design and implementation of a custom report tool in campaign insights, leveraging frontend and middleware technologies. This tool enabled users to generate user-defined cohort reports and gain deeper insights into campaign performance.
- Optimized report generation processes to be asynchronous and multi-threaded, resulting in a 50% reduction in processing time and significantly enhancing user experience.
- Developed an internal QA monitor website using React.js, enabling our team to effectively monitor data quality, quickly identify and resolve issues, and ensure data accuracy and reliability.
- Designed and constructed a physical device for a real-time oozie job dashboard during an internal hackathon. I utilized Arduino and Raspberry Pi to display the status and progress of oozie jobs.
- Discovered and reported a SQL injection vulnerability in the backend during an internal bug bounty program, effectively preventing potential data breaches and enhancing system security.

Software Engineer; Personal Projects;

- Pokemon-go-xposed: Decompiled Pokémon Go APK using dex2jar to replace GPS location request codes with provided coordinates via Xposed. This manipulation enabled in-game character movement by tilting the phone.
- Facebot: Developed a Python library to enable users to send notifications and trigger actions by specific words. This project involved studying Facebook's internal APIs before the introduction of their Bot API.
- fb-access-token: Created a Node.js library to programmatically generate access tokens without interacting with Facebook's authorized page.
- liveany-talkbot: Developed a Python bot to intercept conversations transmitted in plain text using Socket.io via a man-in-the-middle attack.
- Internet Radio Box: Built an internet radio box with physical buttons for play/pause and station changes. Utilized mpd for streaming internet radio and ALSA for sound output.
- Internet-Connected Door Opener: Designed and built a door opener system using an Arduino connected to a door controller and an internet-enabled Raspberry Pi hosting a private API for door operation.

Software Engineer at Dcard; Taipei, Taiwan; December 2013 - November 2015

- Redesigned and implemented forum architecture utilizing MongoDB, leveraging its deep query ability and schema-free nature.
- Enhanced post page UI using Bootstrap modal, doubling page views and reducing rendering time by a full second.
- Refined sorting algorithm to prioritize posts by recency or popularity, adopting Reddit's ranking methodology.
- Crafted a personalized news feed page, displaying content from user-subscribed forums.
- Implemented Facebook login, enabling users to link Dcard and Facebook accounts for seamless registration, and leveraging user's Facebook profile data.
- Streamlined the registration process into three steps and refactored 80% of APIs, contributing to a tenfold increase in user growth rate (from 300 to 3000 users).
- Implemented a user-defined hashtag system to facilitate quicker, more efficient article discovery.
- Customized website UI to reflect seasonal themes (Christmas, Chinese New Year, Moon Festival), enhancing user engagement.
- Utilized Ansible for application deployment across production, staging, and development servers. Authored playbooks for server creation, maintenance, and code deployment.
- Developed a scalable GCM/APN system using Node.js and Redis as a message queue server, deployed across three AWS servers.
- Introduced NFC functionality to the Android app with Android Beam, facilitating information sharing between users via phone tapping.

Android Engineer at SparksLab; Taipei, Taiwan; September 2012 - December 2013

- Developed Headset Icon, an Android app that displays the headset manufacturer's logo and custom notification content, and maintains the volume level when plugging the headset in and out. The app has achieved more than 100K downloads.
- Created Chinese Band, an app designed to introduce traditional Chinese instruments, such as the Guzheng and various percussions, to a global audience. I implemented an

interactive instrument keyboard feature that allows users to swipe with ten fingers and records the users' play by memorizing the time and place of each note. This app won first place in the 2012 Mobile Hero app contest in Taiwan.
- Built Friendly Restaurant Taipei, an application providing accessible restaurant information in Taipei, including wheelchair accessibility, free Wi-Fi, power outlets, and disabled parking, etc. This app won first prize in the 2013 IDEAS Show pitching event.
- Designed the Auto Connect Campus Wi-Fi app, simplifying internet access for students by monitoring network connectivity changes to trigger automatic login procedures.

Research and Development Intern at CHOCOLABS; Taipei, Taiwan; July 2014 - April 2015

- Led the design and construction of the backend system (including API and database) for V.S., an anonymous forum, utilizing Node.js. Contributed to writing comprehensive test cases, achieving a code coverage of up to 90%.
- Successfully migrated the tech stack of iMusee, a music streaming app, from Codeigniter (PHP) and MySQL to Express.js (Node.js) and MongoDB, resulting in a tenfold increase in concurrent user capacity, from 1,000+ to 10,000+.
- Developed efficient web scrapers to extract information from 10 TV show websites, which was subsequently utilized as multimedia app content. These scrapers were deployed across 5 servers to reduce crawling time, leveraging the power of Celery and RabbitMQ for task distribution.

EDUCATION

Tamkang University — Bachelor’s degree in computer science (2011-2015)