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Skills & Certification

Computer Skills

Fluent | TypeScript, JavaScript, React.js, Node.js, HTML, CSS/SASS/SCSS, Python, Redux, Next.js, Gatsby.js, GraphQL, Apollo, AWS deployment (S3, DynamoDB, Lambda) / Terraform / Cloudfront, Jest, unit testing, WebGL, SQL, DB architecture, Nginx/Apache, Unix/shell/bash, Tableau, WordPress, Adobe CC, MS Excel.

Skilled | Kotlin, Java, D3.js, three.js, Angular, React Native, PHP.

Learning | Spring, Svelte, AWS Certification, Swift UI, Rust, Go.

Awards & Certifications

IKM React.js Assessment | 98th percentile – 2022

TripleByte JS Assessment | 'Exceptional' – 2022

Apple Hardware & Software Repair Technician – 2015

Spoken Languages

English (native), Spanish (conversational)

Interests

Music composition/production, classically-trained vocalist, hip-hop dance, running, fashion/apparel, tailoring, world politics, law.

About

I'm a web application developer, designer, & engineer: I specialize in technologies that power the modern internet—front & back. In over 6 years of experience in professional web design/development, combined with a background in physics, data analysis & visualization, innovative product manufacturing, and professional consultation in my own business, I've cultivated a diverse set of skills—not limited to technical prowess. Years of collaborating with diverse teams of designers, artists, engineers, executives, as well as my own clients, reinforces my belief & motivation in working *with people*—interpersonal / communication skills are not incompatible with technical & scientific know-how; rather, these attributes work hand-in-hand. I prioritize delivering efficient, optimized, *accessible* applications, utilizing well-informed concepts of current trends & 'best' practices. My work is dedicated to making the web available to everyone: *beautiful, easy, intuitive*, and, above all, *inclusive*. My foremost personal project utilizes advanced SSR (Server-Side-Rendering) technologies in tandem with client-side caching (Apollo Client/Server), dramatically reducing network throughput & page-load time (the primary factor in bounce-rate).

My skills may be described as 'full stack'—though I find this term minimizes the importance of aesthetic design & user experience. By continuously expanding my knowledge of front & back-end development I have the unique ability to create intuitive, cohesive applications that take full advantage of the interactive nature of the web—always elegant, efficient, & engaging. Formally educated in physics, mathematics, computation, music composition, and digital art, my multi-disciplinary approach to problem-solving delivers creative solutions to complexity.

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Select Experience (relevant & formative)

Intuit Inc.

Oct. 2022–current
San Diego, CA (remote)

Senior Software Engineer III

Consumer Tax Group | TurboTax Online

Delivered over 40 new features/fixes for public-facing, high-traffic TurboTax app. in React/TypeScript, improved test coverage beyond 85%, accessibility, maintaining high level of reliability.

Lead development & implementation of customer analytics for business users achieving metrics for 100% of possible UI interactions with minimal network overhead.

Collaborated closely with analytics team to derive meaningful metrics from business user interactions providing actionable insight & directly impacting the iterative design & implementation process.

Expanded functionality of proprietary page templating schema 'Fuego' (JSON, Kotlin)—the underpinning of TurboTax's document structure & layout—vastly improving developer experience & capabilities.

Engineered new features of TurboTax platform, combining Java, Kotlin, Spring Boot, JavaScript, TypeScript, & others, quickly adapting 'on-the-fly' advanced skill in Kotlin & Java with no prior exposure.

Developed robust type definitions for core JavaScript/TypeScript & React component libraries used by hundreds of developers across all Intuit products, improving stability, test coverage, & accelerating development process ultimately delivering more stable & secure products, new features in *less time* than before.

Mentored junior developers in advanced TypeScript & React as well as professional skills to improve collaboration with designers, managers, executives, and effectively express technical concepts to non-technical audiences.

Promoted & expanded accessibility of TurboTax Online at the developer level, improving keyboard, screen reader, readability support as an 'Accessibility Champion'—a title awarded by Intuit's accessibility community to those with demonstrated knowledge & commitment to accessibility.

Developed feature enabling users to instantly upload tax / financial documents & effectively unifying experience between Intuit products (e.g. CreditKarma to TurboTax).

Apple Inc.

March 2022–Oct. 2022
Cupertino, CA (remote)

Senior Software Engineer III

Special Projects Group

Worked closely with executives, group leadership & UX designers to develop team launchpad application providing gateway access to critical resources, experimental data, analytics, & high-level overview.

Proposed & demonstrated implementation of 'bleeding-edge' technologies such as Next.js / React 18, drastically reducing bandwidth usage, page-load times, & time to access critical information as well as enhance developer experience.

Utilized latest TypeScript with detailed type-declarations in all web projects improving code quality, dramatically reducing error, while providing inline documentation enabling use & further development by other teams / engineers.

Lead development of location-aware Augmented Reality (AR) web application, utilizing WebGL APIs to render complex multi-dimensional geospatial data-visualizations, fetched & rendered dynamically in real-time.

Leveraged Apple Developer APIs & numerous geospatial data sources (of various formats) & designed interactive interface displaying location-based information to enhance user's environmental awareness.

Deployed Docker 'containerized' web applications to Apple cloud-based server infrastructure, Kubernetes clusters, & AWS .

Configured & managed custom development server with Nginx & Node.js enabling features incl. server-side caching, SSR, dynamic content, 'lazy' loading, & server components, reducing network load while delivering highly optimized performance even for the most intensive applications.

Contributed to development of Apple's UI design system, specifically towards enhancing React pattern library enabling visual consistency for React-based applications with consistent design vocabulary company-wide.

Nike Inc.

March 2021–Feb. 2022
WHQ, Portland, OR

Senior Application Engineer

Global Enterprise Architecture

Design, develop, & maintain globally utilized Nike design system enabling enterprise-wide consistency in user-experience & branding.

Lead development of front-end application—demonstrated company-wide by Senior Vice President of Global Architecture—enabling authenticated creation / secure deployment of dedicated AWS resources for arbitrary purposes by providing link to Docker / AWS image (e.g. Nginx, MySQL) with zero-config analytics via Splunk or other services.

Initiated enterprise Web Accessibility audits & implemented accessibility testing, development tools & evangelized accessibility awareness, enabling more than 20% of users to access & use *previously inaccessible & unusable content / applications*, supporting the Nike maxim "Everybody is an athlete."

Configured automated CI/CD / deployment of large-scale, global web platforms to AWS S3 / Cloudfront servers on Nike domain, including end-to-end testing, creation of SSL/TLSv1.2 certificates & DNS entry (AWS Route53 DNS), using Terraform, Github Actions, & CircleCI, eliminating need for manual deployment.

Implemented end-to-end application testing: unit tests (Jest, React Testing Library), UI testing (Jest Dom, Enzyme, Testcafe), linting / formatting, & vulnerability detection processes greatly increasing reliability & predictability of web-applications for end-users & reducing liability / risk of sensitive data exposure or exploitation by more than 40% compared to previous assessments.

Developed & implemented tools to routinely audit, report impact, & fix vulnerabilities in enterprise platforms which routinely handle highly-sensitive enterprise, legal, & executive data, thereby significantly mitigating risk & dramatically increasing application security — ultimately leading to 60% fewer security incidents in the following quarter.

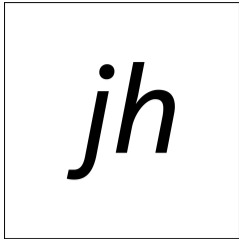
Encouraged adoption / migration to modern web technologies (e.g. Next.js, Emotion, Gatsby.js), delivering a series of formal presentations with demonstrable improvement in both developer & user experience—a 90% improvement in page load speed & 30% overall improvement in Google Lighthouse scores.

Enacted regular cross-team collaborative sessions, creating conversational platform for app. developers, designers, product managers, & end-users to exchange information / ideas, thereby increasing visibility, eliminating overlapping work, & streamlining process for implementing widespread, user-impactful decisions.

Applied & implemented best development practices, automating code-linting, formatting, vulnerability detection, & deployment—ultimately enhancing code-quality, time-to-deployment, overall compatibility, & accessibility, ultimately solving for individual differences in development style while maintaining consistency across Customer Experience managed applications.

Developed React-focused application template enabling engineers to quickly begin development of new, client requested applications & bootstrap new projects according to Nike / UX / UI design & tooling standards.

Advocated & demonstrated use of TypeScript for Nike internal library development to improve code quality, reduce error rate, & enhance developer experience.



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 🐙 [github @hwknsj](https://github.com/hwknsj)

About (continued)

I graduated from Reed College in 2015 with a B.A. Physics. Throughout the course of my senior year, I authored a formal thesis, an opportunity to contribute to the academic physics community. I sought to quantify subjective visual characteristics (e.g. 'naturalness') of patterns in nature (such as the patterns formed by coral reef). I examined patterns created by a set of time-variant nonlinear differential equations which model complex chemical reactions (i.e. 'reaction-diffusion'), equations pioneered by Alan Turing. Utilizing a new & increasingly complex mathematical technique known as 'homology', I performed multi-dimensional computational analysis of resulting patterns topology (Python/C). Communicating mathematically complex research in a clear & engaging way presented a challenge. I looked to the web as an interactive canvas—I built a webpage to present the computer generated graphics alongside interactive JS data visualizations. The satisfying reward of seeing those with no formal math/physics education (i.e. mom) gain an intuitive understanding of my work ultimately led me to pursue a career in the web. The accessibility of my work has inspired continuing research on this topic by successive Reed students. The full text & interactive visualization are available at <https://thesis.joel.fm>.

Visit my design portfolio at <https://joel.fm> for more including, personal projects, work examples, and links to my social sites.

Select Experience

eBay Inc.

April–Sept. 2020
San Jose, CA (remote)

Senior Web Developer

Regional Development: Americas

Developed critical components for eBay public-facing JavaScript pattern libraries, [eBay Skin \(React\)](#) & [eBay-UI Core](#). Ensured cross-platform/category compatibility of components developed for site-wide libraries. Audited & enhanced security of source code, identifying out-dated / potentially exploitable Node.js dependencies. Refactored numerous components according to latest ES6/7 React/JavaScript standards, minimizing codebase & increasing efficiency. Implemented robust type-checking in eBay TypeScript libraries, enabling accelerated development & minimizing errors. Developed underlying JavaScript for eBay's open-source project [Marko](#), a declarative HTML-based 'meta-language' combining HTML, CSS, & JavaScript. Wrote comprehensive React component tests using Jest, Enzyme to ensure stability & uniformity. Authored rich, playground-style Storybook documentation of eBay Skin React components, furthering their flexibility & adoption while enhancing understanding with interactive examples.

Tripwire Inc.

July 2019–Feb. 2020
Portland, OR

Lead Full-Stack Engineer

R&D / SaaS UI | Contract: 7 months

Designed & developed streamlined user interfaces for R&D web applications in JavaScript & TypeScript with React.js, Redux, Node.js, and more. Developed UI for new feature enabling "on-demand" vulnerability scanning of large-scale systems/networks with specific rulesets, targets, extending flexibility & functionality of Tripwire IP360. Lead project to upgrade & unify front-end UI among Tripwire Enterprise products creating consistent UX & company branding. Identified & documented vulnerabilities in Tripwire & partner software ensuring security in public releases. Created interactive forms for Tripwire SaaS/cloud-based enterprise products enabling fine-tuned system management for DevOps and administrative users with Material UI, TypeScript, React hooks, Formik, ultimately reducing computational/network load and eliminating dependency on costly Redux-based operations. Implemented automated UI tests for Tripwire SaaS application using Cypress & developed code linting/formatting hooks for R&D.

Nike Inc.

Feb. 2016–Mar. 2017
WHQ, Beaverton, OR

Resident Physicist & FlyKnit Innovation Engineer

Advanced Manufacturing | Contract: 1 year, 2 months

Innovated advanced product creation processes of Nike FlyKnit footwear tech. via continuous software infrastructure updates to maximize efficiency. Optimized dispatching of unique work orders to factory floor; designed automated Node.js API connected to AWS S3/Lambda/DynamoDB to deliver unique machine-specific production files/info generated 'on-the-fly' to operators on factory floor, eliminating all manual labor. Developed cross-platform Manufacturing Execution System & REST API (Node.js, PSQL) maintaining realtime work-order database. Extensively tested to ensure non-blocking efficiency & stability at massive scale. Authored extensive documentation of MES to allow further development; the codebase executes manufacturing of Nike's new FlyKnit Apparel product line. Identified inefficient stages in FlyKnit production processes, delivering unique merchandise to consumers in unprecedented delivery time while minimizing waste. Collaborated with manufacturing, design, and software teams to mitigate design concepts with engineering challenges for new products. Performed exhaustive manufacturing tests with data analysis, reporting on factors affecting efficiency & impact of other variables. Developed & demonstrated weekly agile/iterative enhancements to user experience and internal workflows, benefiting Nike designers, engineers, and project managers. Extended advanced features for the PPM tool *Workfront* with custom Node.js API & web form to optimize submission & management of new product test orders. Developed graphical React.js web app displaying real-time work order status, continuously updating and notifying progression at each stage. Configured & deployed numerous Node.js + Express or Apache web servers on Linux/Windows/Mac. Collaborated in agile software development, gathering requirements, presenting weekly sprints.

Education

Reed College

Aug. 2011–May 2015
Portland, OR

Bachelor of Arts in Physics

Class of 2015 | Advisor: Daniel Borrero

Thesis: *Looking at Pictures: Topological analysis of complex reaction-diffusion systems*
(online at thesis.joel.fm)