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## Skills & Certification

### Computer Skills

**Fluent** | TypeScript, JavaScript, React.js, Node.js, HTML, CSS/SASS/SCSS, Next.js, Gatsby.js, GraphQL, AWS, Jest, Python, SQL, Nginx, Unix, shell.

**Skilled** | Kotlin, Java, WebGL, React Native, PHP, Web Animations API.

**Learning** | Svelte, mobile app development.

### Awards & Certifications

IKM React.js Assessment | 98th percentile – 2022

TripleByte JS Assessment | 'Exceptional' – 2022

Apple Certified Repair Technician – 2015

### Spoken Languages

English (native), Spanish (conversational)

### Interests

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

## About

I'm a web developer, designer, & engineer: I specialize in modern web technologies focusing on JavaScript & TypeScript—front & back. With over 8 years of professional web design/development experience, combined with my background in physics, data analysis & visualization, innovative product manufacturing, and building my own technology consulting business, I've cultivated a diverse skill set. Years of collaboration among diverse teams of designers, artists, engineers, executives, my own clients, has reinforced the importance of working *with people*—an affinity for interpersonal communication is not incompatible with technical & scientific know-how; rather, it is an invaluable talent to communicate complex ideas, formulate convincing, agreeable arguments, and relate to those with different talents & backgrounds and fundamental to my approach.

I prioritize delivering efficient, optimized, *accessible* applications that utilize well-informed notions of modern technological & cultural trends and current best practices. I am committed to making everything I design available to everyone: *beautiful, intuitive*, and, above all, *inclusive*. My foremost personal project, a high-end fashion trading/sales platform blends my experience in fashion & apparel with cutting-edge web technologies and all of the above: utilizing SSR (Server-Side-Rendering) technology in tandem with client-side caching (Apollo Client), bandwidth usage & page-load time is decreased to an absolute minimum while browsing hundreds or thousands of listings with high-resolution images optimized on-the-fly to best suit the user's device & experience.

My technical skills qualify as 'full stack' though this term does not capture the importance due to aesthetic design & user experience; in practice, it is co-opted to describe rote technical ability but little creative sensibility. Continuously expanding my knowledge of front/back technologies, I have the unique ability to create intuitive, useful applications from start to finish, taking full advantage of the interactivity of the web, and always elegant, efficient, & engaging. Formally educated in physics, mathematics, computation, music composition, & digital art, I solve problems with a multi-disciplinary approach that delivers creative solutions in the face of complexity. *continued on next page ...*

## Select Experience ( relevant & formative )

### Intuit Inc.

Sept. 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 front-end, Java/Spring back-end, improved test coverage beyond 90%, increased accessibility & internationalization, ensured reliability & service uptime.

Engineered new features of TurboTax platform, combining Java, Kotlin, Spring micro-services, React, TypeScript UI, & proprietary page templating architecture.

Implemented Java/Spring micro-service features, including unit tests (JUnit), & end-to-end, integration & REST API tests with Spring MVC, managed dependencies with Maven.

Developed internal micro-frontend debugging browser extension "Bento", extending compatibility with Firefox and Chrome.

Engineered critical new feature enabling instant document upload & importing user's CreditKarma data during filing creating seamless user experience.

Lead technical implementation & collaborated closely with analytics & UI/UX teams to derive meaningful metrics of business user interactions to provide actionable insight. Developed robust type definitions for core JavaScript/TypeScript & React component libraries used by hundreds of developers across all Intuit products, accelerating development process, ensuring code quality.

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, awarded title 'Accessibility Champion' by accessibility community.

### Apple Inc.

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

### Senior Software Engineer III

Special Projects Group

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 Apple UI design system, enhancing React pattern library enabling visual consistency across web applications & cohesive design vocabulary company-wide.

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.

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.

Implemented complex content animation considering variables such as user time of day, location, dark/light-mode setting, mobile vs. desktop using CSS Animations & JS 'Web Animations' API, enhancing user engagement & application performance.

### Nike Inc.

March 2021–Feb. 2022  
WHQ, Portland, OR

### Senior Application Engineer

Global Enterprise Architecture

Lead development of front-end application enabling creation / secure deployment of dedicated AWS resources using arbitrary Docker container / AWS image incl. zero-config Splunk analytics.

Configured CI/CD pipeline of large-scale web platforms to AWS S3 / Cloudfront, incl. end-to-end testing, certificate creation, & DNS mgmt. (AWS Route53 DNS) w/ Terraform, Github Actions, & CircleCI.

Initiated enterprise Web Accessibility audits & implemented accessibility testing, development tools & evangelized accessibility awareness, enabling more than 20% of users to access & use *previously inaccessible applications*.

Delivered series of presentations on new front-end technologies incl. demos, metrics indicating 90% faster page load, 30% improvement in 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-impacting decisions.

Designed, developed, & maintained globally utilized Nike design system enabling enterprise-wide consistency in user-experience & branding, introducing many new UI elements (e.g. tooltips, popover, modal dialog, etc.).

Developed React/TypeScript application template enabling engineers to immediately develop new applications & bootstrap new projects according to Nike UX / UI design & tech. 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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## Education

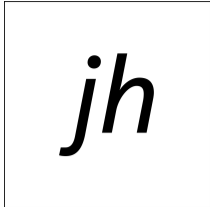
### Reed College

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](https://thesis.joel.fm))



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## 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 the 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. Also check out my [browser extension in the Mozilla Add-ons store](#).

### 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.

### Squishymedia

Oct. 2018–Feb. 2019  
Portland, OR

### JavaScript Developer

Non-profit Design Agency

Headed development of custom web annotation application w/ companion Chrome extension for Columbia University dept. of philosophy. Developed Google Chrome extension to create & store 'on-the-fly' annotations of web content, incl. community features (e.g. comments, ratings, user profiles). Engineered extension UI displaying new annotations in real-time. Designed annotator community playground site incl. user registration/authentication. Authored API specifications for annotator back-end. Researched & recommended technology stack for annotator app, browser extension.

### 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.