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SKILLS & CERTIFICATIONS

Computer Skills

Fluent | TypeScript, JavaScript ES6/ES7, React.js, Node.js, Next.js, Gatsby.js, Redux, HTML, CSS/SASS/SCSS, Tailwind CSS, Vercel AI SDK, GraphQL, Apollo Server/Client, AWS (Lambda, S3, DynamoDB, StepFunctions, API Gateway, CloudFormation, EC2, Amplify), Docker, Jest, Cypress, Python, PostgreSQL, Nginx, Unix.
Skilled | Kotlin, Java, React Native, LangChain, PHP, Web Animations, WebGL, Electron, Kubernetes, Adobe AEM.
Learning | Go, Rust, Svelte, Swift, iOS development, ML (Machine Learning).

Awards & Certifications

IKM React.js Assessment | 98th percentile – 2022
TripleByte JS Assessment | ‘Exceptional’ – 2022
Apple Certified Technician | KHBC05E2BE – 2013

Spoken Languages

English (native), Spanish (conversational)

Interests

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

ABOUT

I’m a web developer, designer, and software engineer: I specialize in building modern web applications from the bottom up–front to back–with a focus on JavaScript & TypeScript frameworks. Over 10 years of professional engineering experience, I’ve developed a uniquely well-rounded problem-solving approach. Combining rigorous mathematical and analytical skills cultivated while earning my B.A. Physics from Reed College, my lifelong affinity for visual design, fascination with technology, computing, and, of course, the web. Above all, my work is characterized by the ability to learn and adapt quickly, developing a thorough understanding of underlying technologies & best practices, the knowledge and experience to explain it in clear language, an emphasis on efficiency and simplicity, and constantly considering the question *who is this for?* The solutions I deliver are built for efficiency and longevity, engineered to withstand abuse, designed to be beautiful, engaging, accessible, and ultimately made to be *used*.
My technical skill set is considered ‘full stack’, however the principles of aesthetic design, user experience, and creative sensibility are inextricable to my work–these elements are often overlooked by many. It is difficult to overstate the importance of less technical skills, including writing, communication, and presentation, all of which I believe are critical as one necessarily must collaborate with others to be successful in our shared goals. With this notion, I have mentored a number of junior colleagues in both technical and professional aspects, a role I take very seriously and attribute to an eagerness and ability to collaborate effectively with anyone. I continuously work to improve these skills as well as expand my knowledge of front and back-end technologies. It is with this unique combination of talents, analytical multi-disciplinary background–demonstrated through years of experience in a variety of industries, at companies large and small–and a strong work ethic that I work to deliver creative solutions in the face of complex problems.

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SELECT EXPERIENCE

Autodesk Inc.

JUNE 2023–APR. 2024
Portland, OR

Senior Full-stack Engineer III

Direct Experience Engineering
(*Contract*)

Developed features, optimized, maintained Autodesk.com micro-frontend applications incl. cart, checkout, user portal using React.js, Redux, JavaScript ES6, Styled-components, SCSS.
Implemented major redesign/back-end overhaul of Autodesk checkout experience, user portal; Node.js REST APIs, AWS Lambda, Step-functions, API Gateway, Adobe AEM, etc. which handles all purchase, payment, subscription, invoicing for all Autodesk products.
Lead initiative to restructure workload/task allocation resulting in increased JIRA sprint velocity, more efficient stand-ups, agile sessions, minimal scope changes, improved on-time delivery.
Optimized checkout app–Java/Spring/Groovy MVC & micro front-end (MFE) architecture, Adobe AEM back-end–reducing page load time by 4 seconds.
Developed Autodesk UI component library implemented in TypeScript, React.js, SASS/SCSS used globally among hundreds of Autodesk engineers in building customer-facing web & platform applications.
Implemented export control compliant rules in AWS API Gateway, Step-functions, CloudWatch, CloudFormation, & Lambda.
Increased efficiency of micro frontend CI/CD build, test, deployment pipeline from >80min to 22min by optimizing Jenkins (Groovy) logic, load-balancing in CloudFormation, implementing automated unit, end-to-end (E2E), integration tests with increased reliability, & improved error reporting.
Repaired & enhanced automated browser tests, end-to-end, component, & integration tests using Cypress in Jenkins CI pipeline dramatically improving reliability, eliminating need for multiple costly restarts to complete Github PR check procedure.
Improved unit test (Jest, React Testing Library, Mocha) coverage & code quality (Istanbul, SonarQube) of React.js micro frontends to meet company-wide 90% coverage standards.

J.P. Morgan Chase

JUNE 2023–OCT. 2023
New York, NY (remote)

Senior Frontend Engineer

U.S. RMBS Principal Finance
(*Contract*)

Lead development of internal React.js applications for widespread use among JPMC portfolio managers in accordance with strict financial industry security policy.
Engineered JavaScript API & React interface enabling secure upload & transmission of multiple market data documents (replacing one-off method) among traders, portfolio managers vastly increasing efficiency, data availability, providing elegant solution for what long-time JPMC developers held previously impossible within JPMC framework.
Developed & published new React components for global proprietary market dashboard framework featuring new and innovative ways of viewing complex market data, combinations of forms, tables, sheets, filters, and visual displays of information simultaneously. Lead demonstrations of new components, forms, data displays, & features for department heads (e.g. VPs), other high-ranking executives, and stakeholders.

Intuit Inc.

SEPT. 2022–APR. 2023
San Diego, CA

Senior Full-stack Engineer III

Consumer Tax Group | TurboTax Online
(*Contract*)

Delivered over 40 new features for flagship application, TurboTax–Java/Spring MVC back-end with React.js, TypeScript front-end, incl. test coverage >90%, AAA WCAG accessibility, improvements in reliability & service uptime.
Engineered new features of TurboTax platform, combining Java, Kotlin, Spring micro-services, React.js, TypeScript UI, Node.js.
Implemented features in TurboTax Java/Kotlin/Spring MVC including unit (JUnit), end-to-end, integration (Cypress) & REST API tests (Jest), using Maven to manage dependencies.
Developed browser extension “Bento” to simplify debugging internal apps, extended compatibility with Firefox and Chrome.
Engineered highly anticipated instant tax-document upload feature, merging user’s CreditKarma data seamlessly during filing process.
Lead technical implementation of user analytics for TurboTax Online in collaboration with UI/UX teams, deriving meaningful metrics of user interactions, impressions leading to new features & improvements.
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.js 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 Intuit accessibility advocates.

Apple Inc.

MARCH 2022–OCT. 2022
Cupertino, CA

Lead Frontend Engineer

Special Projects Group | Cloud Infrastructure
(*Contract*)

Lead development of location-aware Augmented Reality (AR) web application, utilizing Next.js, React.js, Node.js, 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.
Configured & managed secure development server with Nginx/Node.js/Next.js enabling features incl. server-side caching, SSR, dynamic content, lazy-loading, & server components–reduced network load, delivering stable, optimized performance for intensive applications.
Contributed to Apple UI design system, enhancing React.js/TypeScript UI library enabling visual consistency across web applications & cohesive design vocabulary company-wide.
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.

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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](#))

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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 (e.g. 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 is available at <https://thesis.joel.fm>.

Currently working on an AI / ML natural language chat application which augments web development or web design related prompts / responses with useful features such as interactive code environment to explore & debug, guidance regarding actual development processes such as local development and server implementation, , e.g. how to actually implement, host, or serve a web application on your own. Built with Next.js 14, Vercel AI SDK, SCSS + Tailwind CSS (custom theming), Supabase / MongoDB. BYOAI (Bring Your Own AI)—designed for your preferred AI models.

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](#).

SELECT EXPERIENCE

Nike Inc.

MARCH 2021–FEB. 2022
WHQ, Portland, OR

Senior Full-stack Application Engineer

Global Enterprise Architecture
(*Contract*)

Lead development of front-end applications for Global Enterprise with Node.js, React.js, Javascript ES6, Typescript, Redux, Next.js, AWS services enabling creation / secure deployment of dedicated AWS resources using arbitrary Docker container / AWS image incl. zero-config Splunk analytics.

Designed & engineered components for UI pattern library “Nike Design System” using Typescript, React.js, SCSS/SASS, Emotion.js.

Developed React.js/TypeScript/Redux/Webpack application template enabling engineers to immediately develop new applications & bootstrap new projects according to Nike UX / UI design & tech. standards.

Configured CI/CD pipeline of large-scale web platforms using Terraform, Github Actions, & CircleCI, automating deployment to AWS S3, Cloudfront, incl. end-to-end testing, certificate creation, & AWS Route53 DNS management.

Developed & implemented tools such as Splunk, Artifactory to routinely audit, report impact, & fix vulnerabilities in enterprise platforms which routinely handle highly-sensitive enterprise data.

Mentored four junior engineers in advanced Javascript, React.js techniques, provided guidance in navigating workplace, communicating/collaborating, career as well as technology.

eBay Inc.

APRIL–SEPT. 2020
San Jose, CA

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*)

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

Creative Development

Headed development of custom web annotation application (JavaScript, React.js, Redux, Gatsby) 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 (Gatsby.js, React.js) incl. user registration/authentication using JWT & browser storage.

Authored API specifications for annotator back-end, built with Node.js.

Lead research, development, presentation of technology stack and project roadmap for client projects.

Developed & styled company website redesign using React, Gatsby enabling easy content creation/editing.

Composed designs & provided comps for client projects using Adobe XD, improving project planning & helping clients visualize end-product.

Nike Inc.

FEB. 2016–MAR. 2017
WHQ, Portland, OR

Resident Physicist & FlyKnit Innovation Engineer

Advanced Manufacturing | FlyKnit

Innovated advanced product creation processes of Nike FlyKnit footwear tech. via continuous software infrastructure updates to maximize efficiency.

Lead rapid development of proof-of-concept (POC) manufacturing API using Python, Node.js, Express.js, PostgreSQL, AWS & delivered live demonstrations for stakeholder executives.

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 dramatically improving efficiency.

Developed cross-platform Manufacturing Execution System (MES) & REST API (Node.js, Express, PostgreSQL) maintaining realtime work-order database. Extensively load tested to ensure non-blocking efficiency & stability at massive scale.

Streamlined production process of bespoke FlyKnit products, delivering unique merchandise to consumers in unprecedented delivery time and minimized material waste.

Extended advanced features for the PPM tool Workfront with custom Node.js API & web form to optimize submission & management of new product test orders.

Engineered React.js web app displaying real-time order status, continuously updating and notifying progression at each stage.

Configured & deployed numerous Node.js / Express web servers on Linux/Windows/Mac and ‘serverless’ infrastructure.