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SKILLS & INTERESTS

Computer Skills
Fluent | JavaScript & TypeScript ES6+, React.js, Node.js, Redux, Next.js, Gatsby.js, AWS deployment (S3, DynamoDB, Lambda) / Terraform / Cloudfront, GraphQL, Apollo, Jest/Enzyme, WebGL, Python, HTML/CSS/SCSS, SQL, DB architecture, Nginx/Apache, Unix/Shell, Tableau, WordPress, Adobe CC, MS Excel.
Skilled | D3.js, three.js, Angular, Svelte, React Native, PHP
Learning | Vue.js, Amazon AWS Cert., WebRTC.
Awards & Certifications
IKM React.js Assessment | 95th percentile
TripleByte JS Assessment | ‘Exceptional’
Apple Certified Repair Technician

Spoken Languages
English (native), Spanish (conversational).

Interests & Hobbies
Music composition/production, classically-trained vocalist, fashion/apparel, hip-hop dance, distance running.

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.

I graduated from Reed College (B.A. Physics, 2015) and authored thesis over the entirety of my senior year. I sought to quantify subjective visual characteristics (e.g. ‘naturalness’) of time-variant patterns formed by computed nonlinear chemical reactions first discovered by Alan Turing (‘reaction-diffusion’). Utilizing new & increasingly complex mathematical methods 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 [info.joel.fm/thesis](#).

Visit my design portfolio at [joel.fm](#) for more including, personal projects, work examples, and links to my social sites.

KEY EXPERIENCE

<div>Apple Inc. March 2022–current Cupertino, CA (remote)</div>	<div>Senior Software Engineer Special Projects Group</div> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Leveraged Apple Developer APIs & numerous geospatial data sources (of various formats) & designed interactive interface displaying location-based information to enhance user’s environmental awareness.</p> <p>Deployed Docker ‘containerized’ web applications to Apple cloud-based server infrastructure, Kubernetes clusters, & AWS .</p> <p>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.</p> <p>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.</p>
<div>Nike Inc. March 2021–Feb. 2022 WHQ, Portland, OR</div>	<div>Senior Application Engineer Global Enterprise Architecture</div> <p>Design, develop, & maintain globally utilized Nike design system enabling enterprise-wide consistency in user-experience & branding.</p> <p>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.</p> <p>Initiated enterprise Web Accessibility audits & implemented accessibility testing, development tools & evangelized accessibility awareness, enabling more than 20% of users to access & use <i>previously inaccessible & unusable content / applications</i>, supporting the Nike maxim “Everybody is an athlete.”</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Advocated & demonstrated use of TypeScript for Nike internal library development to improve code quality, reduce error rate, & enhance developer experience.</p>
<div>eBay Inc. April–Sept. 2020 Portland, OR (remote)</div>	<div>Senior Web Developer Regional Development: Americas</div> <p>Developed critical components for eBay public-facing JavaScript pattern libraries, eBay Skin (React) & eBay-UI Core.</p> <p>Ensured cross-platform/category compatibility of components developed for site-wide libraries.</p> <p>Audited & enhanced security of source code, identifying out-dated / potentially exploitable Node.js dependencies.</p> <p>Refactored numerous components according to latest ES6/7 React/JavaScript standards, minimizing codebase & increasing efficiency.</p> <p>Implemented proper type-checking in TypeScript-based libraries.</p> <p>Wrote comprehensive React component tests using Jest, Enzyme to ensure stability & uniformity.</p> <p>Authored interactive documentation of work using Storybook to increase adoption & increase understanding.</p>
<div>Tripwire Inc. July 2019–Feb. 2020 Portland, OR</div>	<div>Lead Full-Stack Engineer R&D / SaaS UI Contract: 7 months</div> <p>Designed & developed streamlined user interfaces for R&D web applications in JavaScript & TypeScript with React.js, Redux, Node.js, and more.</p> <p>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.</p> <p>Lead project to upgrade & unify front-end UI among Tripwire Enterprise products creating consistent UX & company branding.</p> <p>Identified & documented vulnerabilities in Tripwire & partner software ensuring security in public releases.</p> <p>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.</p> <p>Implemented automated UI tests for Tripwire SaaS application using Cypress & developed code linting/formatting hooks for R&D.</p>
<div>Nike Inc. Feb. 2016–Mar. 2017 WHQ, Beaverton, OR</div>	<div>Resident Physicist & FlyKnit Innovation Engineer Advanced Manufacturing Contract: 1 year, 2 months</div> <p>Innovated advanced product creation processes of Nike FlyKnit footwear tech. via continuous software infrastructure updates to maximize efficiency.</p> <p>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.</p> <p>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.</p> <p>Authored extensive documentation of MES to allow further development; the codebase executes manufacturing of Nike’s new FlyKnit Apparel product line.</p> <p>Identified inefficient stages in FlyKnit production processes, delivering unique merchandise to consumers in unprecedented delivery time while minimizing waste.</p> <p>Collaborated with manufacturing, design, and software teams to mitigate design concepts with engineering challenges for new products.</p> <p>Performed exhaustive manufacturing tests with data analysis, reporting on factors affecting efficiency & impact of other variables.</p> <p>Developed & demonstrated weekly agile/iterative enhancements to user experience and internal workflows, benefiting Nike designers, engineers, and project managers.</p> <p>Extended advanced features for the PPM tool <i>Workfront</i> with custom Node.js API & web form to optimize submission & management of new product test orders.</p> <p>Developed graphical React.js web app displaying real-time work order status, continuously updating and notifying progression at each stage.</p> <p>Configured & deployed numerous Node.js + Express or Apache web servers on Linux/Windows/Mac.</p> <p>Collaborated in agile software development, gathering requirements, presenting weekly sprints.</p>

EDUCATION

<div>Reed College Portland, OR</div>	<div>Bachelor of Arts in Physics Class of 2015 Advisor: Daniel Borrero Thesis: <i>Looking at Pictures: Topological analysis of complex reaction-diffusion systems</i> (online at info.joel.fm/thesis)</div>
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