joél hawkins torres

Portland, OR
joel@joel.fm
https://joel.fm
@hwknsj
@hwknsj

SKILLS & CERTIFICATIONS

Computer Skills

Fluent | TypeScript, JavaScript ES6/ES7, React.js, Node.js, Next.js, Gatsby.js, Redux, HTML, CSS/SASS/SCSS, Tailwind CSS, Docker, Vercel AI SDK, GraphQL, Apollo Server/Client, D3.js, Three.js, AWS (Lambda, S3, DynamoDB, StepFunctions, API Gateway, CloudFormation, EC2, Amplify), Jest, Cypress, Python, PostgresSQL, 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 senior front-end and full-stack web application 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 such as Next.js, React.js, & Node.js. In 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, a lifelong affinity for visual design, fascination with technology, computing, and, of course, the web. Above all, my ability to learn and adapt quickly, to develop a thorough understanding of underlying technologies & best practices characterizes my approach to solving problems. The knowledge and experience gained from 10 years of real-world, high-stakes engineering with real costs, real risk, shifting circumstances, evolving needs, and eager stakeholders matters when it comes to working with others, strategizing, building, and shipping new and innovative technology. While code bootcamps or YouTube tutorials may lend the keywords that score highly on an ATS résumé parser, it does little to bolster nuanced understanding of increasingly complex technology, to work alongside people of all backgrounds, to relate technical ideas in clear language, to think critically and creatively when faced with unknown challenges–these are skills I've developed in 10 years working for some of the most valuable tech companies. I deliver solutions that are built for efficiency, elegance, stability, and designed to be accessible, engaging, beautiful, and useful.

I am a 'full-stack' engineer, however the principles of aesthetic design, user experience, and creative sensibility are inextricable to my work–as important component of *function* is *form*. My skills in creating a cohesive, stylized 'front-end' experience complement my analytical, architectural, and logical 'back-end' skills. Similarly, I firmly believe in the importance of so-called non-technical skills including strong verbal and written communication, confidence in presentation, and collaborative ability, all of which are critical in order to be successful in working with others to achieve our shared goals. It is with this philosophy that I have mentored a number of junior colleagues in both technical and professional aspects of work, a role I take very seriously. I pride myself on my ability to communicate effectively with anyone, to understand their challenges, and understand that they may teach me something about mine. I continuously work to improve these skills as well as expand my technical knowledge, staying up-to-date with new technologies and best practice. It is with this unique combination of talents, multi-disciplinary background, I've demonstrated over years of experience in a variety of industries at companies large and small, a strong work ethic consistently delivering creatively engineered web applications.

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SELECT EXPERIENCE

Autodesk Inc.
Senior Full-stack Engineer III
June 2023–Apr. 2024
Direct Experience Engineering
Portland, OR
(Contract)

- Developed features, optimized, maintained Autodesk.com micro-frontend applications incl. cart, checkout, user portal using React.js, Redux, JavaScript ES6, Styled-components, SCSS.
- Engineered Autodesk Platform Services (APS) API in Node.js, migrated OAuth REST API to V2, implemented 3-legged OAuth token authentication.
- Greatly improved clarity, accuracy of APS API V2 documentation leveraging Sphinx documentation framework.
- Optimized Autodesk.com checkout app, refactoring at all layers of tech-stack: Java/Spring/Groovy MVC & React micro front-end (MFE) architecture, Adobe AEM Sites/Assets & HTL (Apache Sling) engine with Java/JavaScript-backend object models & Granite SSR/Client rendering–reduced average page load time by 4 seconds.
- Overhauled/redesigned Autodesk checkout & user portal experience. Stack: React.js, Styled-components micro front-ends, Node.js REST APIs, Java/Spring, AWS Lambda, Step-functions, API Gateway, Adobe AEM, handling 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.
- Developed Autodesk UI component library in React.js, SASS, & lead initiative to migrate to TypeScript & implement JSDoc, created/wrote thorough documentation with Storybook. Enhanced dev. experience for hundreds of Autodesk engineers worldwide building customer-facing web & platform applications.
- Implemented export control compliance logic in AWS API Gateway, Step-functions, CloudWatch, CloudFormation, & Lambda.
- Increased efficiency of micro frontend CI/CD build, test, deployment pipeline from >80min to 22min (75% faster), optimizing Jenkins process, load-balancing CloudFormation VMs, automating asynchronous unit, end-to-end (E2E), integration tests with greater stability & fail-fast logic.
- 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
Senior Frontend Engineer
June 2023–Oct. 2023
U.S. RMBS Principal Finance
New York, NY (remote)
(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.
Senior Full-stack Engineer III
Sept. 2022–Apr. 2023
Consumer Tax Group | TurboTax Online
San Diego, CA
(Contract)

- Delivered over 40 new features for flagship application, TurboTax, a Java/Spring MVC application 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.
- Authored detailed documentation of proprietary JSON-based page templating framework 'Fuego' on internal Confluence pages, frequently referenced by others throughout the company, viewed several hundred times per-day. Illuminated countless features unknown to long-time Intuit engineers.
- 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 including hooks, reducers, context APIs, 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.
Lead Frontend Engineer
March 2022–Oct. 2022
Special Projects Group | Cloud Infrastructure
Cupertino, CA
(Contract)

- Lead development of location-aware Augmented Reality (AR) web application, utilizing Next.js (NextJS) React.js, Node.js, WebGL APIs to render complex multi-dimensional geospatial data-visualizations (e.g. GeoJSON data), fetched from institutionally operated REST APIs & rendered dynamically in real-time.
- Leveraged Apple Developer APIs & numerous geospatial data sources (of various formats, e.g. ESRI, GeoJSON) & designed interactive interface displaying location-based information to enhance environmental awareness.
- Configured & managed secure development server with Nginx/Node.js/Next.js (NextJS) enabling features incl. server-side rendering, incremental static regeneration, dynamic routes, lazy-loading, & server components–reduced network load, delivering stable, optimized performance for intensive streaming 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.
- Created documentation site & authored technical documentation of application features, usage, APIs, tech-stack, & daily change log using docz framework, enabling easy contribution from future developers using Markdown (MDX) with minimal configuration. Alternatives considered include Docusaurus and Mintlify. Proposed & demonstrated tech stack, enumerating benefits and performance enhancements with Next.js & React 18 drastically reducing bandwidth usage, page-load Utilized latest TypeScript, React.js, Next.js features in numerous rapidly developed POC web applications in pioneering 'Special Projects Group'.

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EDUCATION

Reed College
Bachelor of Arts in Physics
Aug. 2011–May 2015
Class of 2015 | *Advisor: Daniel Borrero*
Portland, OR
Thesis: *Looking at Pictures: Topological analysis of complex reaction-diffusion systems*
⟨online at thesis.joel.fm⟩

joél hawkins torres

Portland, OR
joel@joel.fm
https://joel.fm
@hwknsj
@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 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.

PROJECTS

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. BYOAI (Bring Your Own AI)–designed for your preferred AI models.

Also actively developing a high-end designer clothing trading and e-commerce platform. Built with Next.js 15rc, React 19rc, utilizing MongoDB backend with Apollo Client, and Prisma GraphQL. Components are styled using Emotion. Users drive activity on the site, much like that of Ebay, however the services are specialized towards high-end men's and women's wear, vintage and new, with detailed sizing information, user feedback, and messaging capabilities to coordinate offers, haggle prices, and ask questions. In development since 2021.

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

SELECT EXPERIENCE

Nike Inc.
Senior Full-stack Application Engineer
March 2021–Feb. 2022 — Global Enterprise Architecture
WHQ, Portland, OR — *(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.
Senior Web Developer
April–Sept. 2020 — Regional Development: Americas
San Jose, CA

- 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.
Lead Full-Stack Engineer
July 2019–Feb. 2020 — R&D / SaaS UI
Portland, OR — *(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
JavaScript Developer
Oct. 2018–Feb. 2019 — Creative Development
Portland, OR

- 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.
Resident Physicist & FlyKnit Innovation Engineer
Feb. 2016–Mar. 2017 — Advanced Manufacturing | FlyKnit
WHQ, Portland, OR

- 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.