

# Tim Kendrick

Senior Rust/TypeScript/React Software Engineer

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## Overview

Bright, enthusiastic hard-worker with over fifteen years' experience across multiple industries. Excellent problem-solving skills, fast learner, and a keen eye for detail and aesthetics. I'm highly self-motivated and a very strong team member who knows how to design and ship quality products.

Equally comfortable building large-scale UI-driven applications, robust frameworks and libraries, in-house developer tools, compiler/interpreter implementations, or time-saving automation utilities, I love to tackle big problems and take pride in writing clean code built around elegant user-focused APIs.

## Frameworks / Technologies

Strong expertise in Rust, WASM, TypeScript, React, Node, GraphQL, gRPC, WebSockets, RxJS and various other buzzwords. I particularly enjoy functional coding, reactive/stream programming, and anything involving AST transformation/analysis. I like to learn new concepts from first principles, and have written lots of my own libraries for streams, transducers, virtual DOM etc, to gain a deep understanding of how these approaches work at a fine-grained level.

My hobby projects tend to focus on creating a more efficient development experience, often via new programming language paradigms or new takes on existing editor workflows. Recent experiments have focused on WebAssembly, including a macro preprocessor system for the WAT Text Format to simplify hand-coding WASM modules for performance-critical code paths.



## Selected Work History

- **April 2020 - present:** [Marshall Wace](#), Lead Software Engineer
- **April 2019 - December 2019:** [11:FS](#), Senior Software Engineer (freelance)
- **September 2018 - March 2019:** [Canvas Composer](#), Solo developer
- **August 2016 - August 2018:** [Deutsche Bank / DWS](#), Lead Open-Source Developer (freelance)
- **September 2013 - April 2015:** [Fathom](#), Lead Developer
- **February 2013 - August 2013:** [R/GA London](#), Senior Front-End Developer (freelance)
- **August 2011 - January 2013:** [Burberry](#), Senior Front-End Developer (freelance)
- **Summer 2006 - February 2010:** [Ralph](#), ActionScript Developer

## Selected Open Source Projects

### Popular utility libraries

*Note that my personal repositories are no longer receiving non-critical maintenance due to employers' OSS policies*

- [recursive-copy](#)  – Simple, flexible file copy utility
- [memoize-weak](#)  – Garbage-collected variadic function memoizer
- Many more at [github.com/timkendrick](https://github.com/timkendrick) and [npmjs.com/~timkendrick](https://npmjs.com/~timkendrick)

### Larger standalone projects

- [Skivvy](#) (2015) – Modular task runner for reusable build systems
- [T-Bone](#) (2013) – Backbone.js view/binding component framework

# Selected Job Roles and Responsibilities

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## Marshall Wace (April 2020 - present)

Joined as a UI developer on a small, delivery-focused team building the company's flagship internal portfolio management suite (subsequently promoted to lead UI developer). Increasing focus on streaming API development led to a dedicated role developing streaming technologies for distributed systems, primarily leading the design and implementation for a reactive programming language geared towards real-time client/server applications (currently internal, soon to be open-sourced).

The language allows the user to rapidly implement a live-queryable dynamic streaming graph API in a pure-functional subset of JavaScript. All expressions are automatically dependency-tracked for state updates, with results incrementally patched as underlying values change. This enables users to express arbitrarily complex deeply-nested streaming dynamic joins as trivially as plain synchronous expressions. Use on a production system led to codebase size reduction from 15K LOC to 5K LOC.

I wrote the compiler/interpreter/runtime/server/devtools in Rust, using an async actor-based architecture for the server. The language toolchain is highly configurable, with compiler front-ends for multiple interoperable source languages beyond JS, back-end implementations for WASM and a proprietary VM bytecode instruction set, fully extensible standard library etc.

## 11:FS (March 2019 - December 2019)

Lead TypeScript / React Native developer building a greenfield mobile app for a US retail bank's new challenger offering. Responsibilities included front-end architecture design, development of in-house testing framework and cross-platform styling tools, presenting technology-related talks, and interviewing potential new hires. Singlehandedly developed a fully-functioning prototype app within three weeks of arrival, with entire polished V1 release in users' hands within less than three months.

## Canvas Composer (September 2018 - March 2019)

Singlehandedly built a large-scale IDE for rapid development of React applications ([canvascomposer.com](https://canvascomposer.com)). Intuitive UI builder allows toggling between visual drag-and-drop workspace and source code editor. Component library plugins and integrated zero-config build tools and allow rapid application prototyping within a graphical interface. Extensive static JSX source analysis of existing code allows prototypes to be seamlessly integrated within a real codebase.

## Deutsche Bank / DWS (August 2016 - August 2018)

Lead architect/developer on a graph-based streaming data framework used to power data-driven front-end applications across DWS. Consumer teams reported large productivity gains and vastly decreased bug count. Project responsibilities included product direction, API/architecture design, core library implementation, development of bespoke unit-testing framework and browser plugin for developer tools.

## Fathom (September 2013 - April 2015)

Lead front-end developer for a highly interactive real-time corporate bond trading platform for [Tradeweb](#) and accompanying [component suite](#). Responsibilities included application architecture, development of in-house component library, performance tuning/profiling, internal build tools, technical leadership, teaching and supervising other developers, hiring new developers.

## Burberry (August 2011 - January 2013)

UI development for all interactive experiences on burberry.com, creation of in-house JS/CSS Framework (used across all campaign sites, live streamed fashion shows, press kits and in-house tools), development of in-house internationalization tools, automation / build process improvements, technical research, hiring and supervising new developers.

# Academic History

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- **2005 - 2008:** Trinity College, University of Cambridge (BA degree in Philosophy)
- **2003 - 2005:** Sevenoaks School (International Baccalaureate Diploma, 45 out of 45)