

Patrick Vuscan

SOFTWARE ENGINEER

SAN FRANCISCO, CALIFORNIA, USA

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Experience

Benchling

San Francisco, California

FULL STACK SOFTWARE ENGINEER

June 2024 - Present

- Tech-planned and led the development of an antibody spreadsheet import flow using [XState](#) state machines for event-driven state management.
- Improved performance of API endpoint by 19% by optimizing [PostgreSQL/SQLAlchemy](#) queries, after deriving performance issues and results from Datadog Application Performance Monitoring. Collaborated with infrastructure teams to improve internal load-testing framework.
- Shipped end-to-end data visualization feature, making enterprise bio-pharmaceutical researchers' workflows more efficient, enabling visualization of relationships between deeply connected entities (e.g. DNA Sequences, Proteins, Antibodies) in a web-like diagram using [Reactflow](#).
- Improved developer productivity by shipping a Benchling Developer [MCP Server](#) using [FastMCP 2.0](#) which connected to GitHub, Sentry, our CLI and CI/CD, etc., and which could be connected to Agentic AI tools such as Claude Code or Cursor. Also standardized Agent rules.
- Implemented a spreadsheet import of clinical trial samples feature using [Celery](#) distributed jobs/tasks to handle scalability and throughput.
- Built reliable and performant web features with [TypeScript](#), [React](#), [GraphQL](#), [Redux](#), [Python with MyPy](#), [Flask](#), [SQLAlchemy](#), and [PostgreSQL](#)

Riot Games - League of Legends Client

Los Angeles, California

FULL STACK SOFTWARE ENGINEER

Sep. 2022 - May 2024

- Delivered a large-scale cross-team front-end refactor which migrated users from legacy usernames. Designed and built reliable solutions and interfaces to support the new models, performance and caching, and backwards compatibility. Successfully released without any live-issues.
- Designed and shipped user-facing [C++ REST APIs](#), supported by observability and monitoring (metrics, logging, profiling, etc.)
- Headed reduction in memory usage and technical debt through extensive refactoring of Web Components into [Ember.js](#) components.
- Improved developer productivity and experience by developing impactful shared components and infrastructure for the League Client platform, and held monthly engineering community of practice sessions to mentor and share knowledge/context on best practices or new technologies.

Riot Games - League of Legends Client

Los Angeles, California

SOFTWARE ENGINEERING INTERN

May 2021 - Aug. 2021

- Decreased long session memory usage by >5MBs in the Client, by identifying 19 leaks and creating [Ember.js](#) component wrappers to plug them.
- Identified source of broken callbacks between nested [Ember.js](#) applications through a deep dive into unique interactions in the Ember engine.

Presize.ai (Acquired by Meta)

Munich, Germany

FRONT-END DEVELOPER

Sep. 2020 - Dec. 2020

- Decreased user drop-off rate and increased video input accuracy by implementing a guided, mobile in-browser video scanning feature.
- Increased user flow completion rate through an extensive overhaul of the UX using [React.js](#) in [TypeScript](#), [Material UI](#), and [Redux Toolkit](#).
- Lowered product metrics costs and diagnosed user journey choke points by implementing a front-end user behavior tracking system.

Projects

The Scoop

- Built a [SwiftUI iOS](#) groupchat messaging application using the [Firebase SDK and Authentication](#), which supports photo and video uploads using [Firebase Storage](#), and native iOS notifications using [Firebase Cloud Messaging](#).
- Deployed a [TypeScript Express.js](#) backend server using [Google Cloud Run](#), analytics recorded through Mixpanel, and uses [GCP Cloud Scheduler](#) as a cron job to trigger weekly notifications. Back-end APIs handle authorization at both the API and Firestore Rules levels.

Education

University of Toronto, St. George

Toronto, Canada

HONOURS BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Skills

Languages	TypeScript (TS), JavaScript (JS), Python , MyPy , C++, HTML, CSS, SwiftUI
Frameworks	React , Node.js , Flask , Next.js , Express.js , Django REST , Ember.js , React Native , GraphQL , Apollo , Sanity CMS
Tools/Infra	Sinon , Chai , Jest , React Testing Library (RTL) , PyUnit , pytest , Cypress , Playwright , A/B Testing
Databases	PostgreSQL , SQLAlchemy , MySQL , MongoDB , Firebase Firestore , Firebase Cloud Storage , Amazon AWS S3