Yuri Sulyma

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⭕ *ysulyma*
⭕ *liqvidjs*

Skills

Languages	TypeScript, Go, Rust, HTML, CSS, Python, SQL, GraphQL, PHP, XML/XSLT, LDAP	**Libraries**	React, Redux, CodeMirror, Tailwind, TanStack, Next.js, THREE.js, D3.js, MathJax
APIs	AWS, GCP, GitHub, OpenAI, Pinecone, Airtable, Facebook, WordPress	**Basic knowledge**	FFmpeg, Ruby

Education

2014–2019	**Ph.D. in Mathematics**, *University of Texas at Austin*, Austin, TX
2008–2013	**B.Sc. in Honors Mathematics**, *University of Alberta*, Edmonton, AB

Employment

2022–present — **Software Engineer**, *Useful, Inc.*, Remote, (Next.js, React, Go, Python)
- built bespoke interface for sharing critical segments of customer calls
- implemented live data syncing across the app using WebSockets
- helped build LLM pipeline for extracting insights across hundreds of calls
- championed an OpenAPI spec for our frontend-backend contract, and implemented code generation
- championed more robust patterns for data loading (TanStack Query) and error handling (Result pattern)
- wrote unit and end-to-end tests using Jest and Playwright, and encouraged a culture of testing
- documented our component library using Storybook, and made it easier for teammates to do the same
- monkey-patched third-party libraries (Mux, Quill) when their APIs were insufficient

2019–2022 — **Tamarkin Assistant Professor of Mathematics**, *Brown University*, Providence, RI
- integrated code into teaching mathematics by building interactives for my courses (React, THREE.js, D3.js)
- taught a full vector calculus course (MATH 180, 120 interactive videos) using THREE.js + Liqvid

2016–2019 — **Graduate Research Assistant**, *University of Texas at Austin*, Austin, TX

2014–2016 — **Graduate Teaching Assistant**, *University of Texas at Austin*, Austin, TX

2013–2014 — **MOOC software consultant**, *University of Alberta*, Edmonton, AB. (XSLT, Node, SQL, Javascript)
- migrated eMath textbook software from Apache Cocoon to Node/SQL backend
- fixed bugs in existing frontend code and added several new modern interactive features

Projects

2017–present — **Liqvid**, `https://liqvidjs.org`. (TypeScript, React, most Libraries listed above)
Built framework for creating interactive videos in React.
- plugins for audio/video recording; cursor and handwriting recording; captioning; and a 3d graphing calculator
- integrations with CodeMirror; Desmos; KaTeX/MathJax/XyJax; and React-Three-Fiber
- CLI tool: development server, build system, media processing
- wrote documentation and produced tutorials
- produced many educational videos with the software (Epiplexis)

2009–2013 — **Bearbook.** (Javascript, PHP, SQL, Facebook, LDAP)
Built Facebook app for University of Alberta students; had over 9000 active users at our peak.
- initial functionality was to share timetables and find spares with one's friends
- added price comparison for textbooks and later built textbook marketplace
- scraped University course directory and LDAP backend for course data; scraped OpenLibrary for textbook data
- built Course Directory that was much faster and easier-to-use than the University's, as well as a Schedule Builder
- worked with the University to create APIs making it easier for future students to develop similar innovations

Teaching

2021 — **Interactive videos for teaching and visualization**, *PCMI Illustrating Mathematics week*
Ran a workshop on Liqvid as part of the PCMI's Graduate Summer School week on Illustrating Mathematics.

2019 — **Javascript Working Group**, *PCMI Illustrating Mathematics semester*, Providence, RI
Taught participants Javascript, in particular THREE.js, in order to create interactive math visualizations.