Jacob Fahnestock

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Work Experience

Founding Software Engineer   *Aug 2023 – Present*
Quanta Markets   *Boston, MA (remote)*

- Built fault-tolerant backend services that processed $200M+ in derivatives daily with high reliability.
- Migrated data infrastructure to enforce integrity at the database layer, doubling query performance and preventing silent failures.
- Partnered with non-technical stakeholders to translate complex financial workflows into dependable, intuitive software products.
- Designed ingestion pipelines and monitoring to ensure resilient performance under inconsistent external data feeds.

Software Engineer Intern   *Jan 2022 – Aug 2023*
Quanta Markets

- Delivered pragmatic solutions under tight timelines, including salvaging a stalled 6-month automation project in one week.
- Introduced prototype-driven development to align business and engineering, accelerating iteration and feature adoption.
- Set up CI/CD pipelines and observability tools to support continuous, reliable delivery in a startup environment.

Publications

Web Native Browse Tool for the NASA JPL ITS_LIVE Project's Ice Velocity Dataset   *Oct 2023*
Awarded Best Paper - IEEE UEMCOM 2023 - Advisor: Dr. Douglas Dow   *Boston, MA*

- Enabled scalable, performant in-browser visualization of the NASA ITS_LIVE Project's global ice data by shifting compute to the client, eliminating intermediary servers and reducing hosting costs through close collaboration with the ITS_LIVE team.
- Improved TTFB response times by 120x compared to the ITS_LIVE team's previous implementation.
- Raised Lighthouse Scores by 40% achieving 92+ scores across the application.
- Checkout the ice flow history of Malaspina Glacier in Alaska!

Education

Bachelor of Science in Computer Engineering   *Wentworth Institute of Technology*
Bachelor's degree program   *Sep 2019 – Aug 2023*
GPA: 3.9
Magna Cum Laude, Deans List 2019-2023, Pritzker Scholarship 2020 - 2021

Technical skills

Programming Languages	TypeScript/JavaScript, Python, SQL, HTML, CSS, Rust (hobby)
Frameworks/Tools	React, Node.js, Nextjs, MySQL, PostgreSQL, Git, Github

Soft skills

I developed my soft skills and communication style from my background in tutoring. I worked within a differential equations curriculum that relied on guided peer group exploration with embedded tutors. This style of communication emphasized working from the students' understanding rather than my own, shortening the feedback loop without being dismissive or judgmental. I've found this skill set to be relevant to technical roles, especially when finding alignment on small teams.