Jacob Fahnestock

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Work Experience

Founding Software Engineer
Quanta Markets

Aug 2023 – Present
Boston, MA (remote)

- Raised user retention rate by 20% (66% → 86%) by personally leading the end-to-end product loop: interviewing users, shaping the roadmap, and delivering full-stack improvements.
- Redesigned price ingestion and cashflow workflows to ensure idempotent, retry-safe database operations, insulating the system from inconsistent or delayed external data feeds and reducing ingestion failures by 90%.
- After uncovering a production data integrity failure, led a schema refactor to enforce strict foreign key constraints and optimize ORM behavior, improving database integrity and doubling query performance across the app.

Software Engineer Intern
Quanta Markets

Jan 2022 – Aug 2023

- Enabled rapid product iteration by introducing prototype-driven collaboration between business and engineering, unlocking faster, more aligned decision-making.
- Salvaged a stalled 6-month automation effort by delivering a pragmatic, manual-first solution in just one week.
- Designed interpolation models that transformed sparse data into critical product features, driving value from limited inputs.
- Set up CI/CD pipelines and monitoring systems to ensure high availability and rapid development cycles.

Publications

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

Oct 2023
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
Bachelor's degree program
GPA: 3.9
Magna Cum Laude, Deans List 2019-2023, Pritzker Scholarship 2020 - 2021

Wentworth Institute of Technology
Sep 2019 – Aug 2023

Technical skills

Programming Languages	TypeScript/JavaScript, Python, SQL, HTML, CSS, Rust
Frameworks/Tools	React, Next.js, Node.js, MySql, Prisma, 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.