

# Patrick Weaver

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Senior full-stack engineer with experience building and scaling real-time web platforms used by hundreds of thousands of students. Strong track record of leading teams, modernizing legacy systems, and shipping reliable, privacy-compliant software in education and developer platforms.

## RECENT EXPERIENCE

**BookNook** | Remote

*Engineering Lead*

*Senior Software Engineer*

**Jan 2021 – Mar 2026**

*Jul 2023 – Mar 2026*

*Jan 2021 – Jul 2023*

Led engineering for a synchronous tutoring education platform serving 150k+ monthly student sessions with real time video, collaboration tools, and on-demand tutor scheduling.

- Owned tutor scheduling platform, delivering an MVP that replaced a \$5M external vendor contract, and a version 2 implementing asynchronous queues and data denormalization for complex eligibility logic. Updates eliminated peak traffic timeouts and improved response times by over 300%.
- Led engineering initiatives modernizing the backend: Migration of a large Node.js codebase to TypeScript, AuthN/AuthZ redesign, ORM migration, Feature Flag implementation, Dependency modernization including Node upgrades (10 → 24).
- Implemented AI dev tools (Claude Code, Cursor) into team workflows, created internal tools and documentation to enable agents to safely interact with legacy systems.
- Built privacy-first data systems ensuring COPPA and FERPA compliance, built integrations with state reporting pipelines, designed systems that safeguarded student PII by default.
- Supported infrastructure migration from Heroku to AWS, and CircleCI to GitHub Actions, including Terraform infrastructure, Grafana monitoring. Led post-migration CI performance work, improving CI runtime by 50%.
- Managed 3 engineers, led technical hiring screens and new engineer onboarding, refined sprint planning processes.
- Partnered closely with product, design, and curriculum teams to ship interactive learning tools for K-8 reading and math programs aligned with Science of Reading pedagogy.

**Mouse** *Software Engineer, Learning Design* | New York, NY

**Jul 2018 – Jul 2020**

Built web platforms and learning tools used in technology education programs.

- Developed two full-stack curriculum platforms using React and Vue; migrated one system from server-rendered templates to a Vue SPA.
- Containerized platform infrastructure to improve local development and deployment workflows.
- Prototyped dozens of student-facing web learning tools covering encryption, game design, chatbots, ML concepts, and web development.
- Built an analytics system designed for COPPA compliance, enabling curriculum insights while protecting student privacy.

## **NOTABLE WEB PROJECTS**

### **IRL HTML**

[github.com/patrickweaver/irlhtml](https://github.com/patrickweaver/irlhtml), [doodles.patrickweaver.net/irl-html](https://doodles.patrickweaver.net/irl-html)

- Computer vision + AI experiment that converts photos of handwritten HTML into functioning hosted webpages using multimodal models and OCR.

### **A Blog Post With Every HTML Element**

[patrickweaver.net/blog/a-blog-post-with-every-html-element](https://patrickweaver.net/blog/a-blog-post-with-every-html-element)

- Research project exploring HTML semantics and accessibility by implementing every HTML element in a single article.

### **Record Player**

[github.com/patrickweaver/record-player](https://github.com/patrickweaver/record-player)

- App using Google Vision and Spotify APIs to identify albums from a photo of an album cover. Featured by Pitchfork as “Shazam for album covers.”

## **SKILLS**

### **Technology & Frameworks:**

- Current expertise: TypeScript, JavaScript, Node.js, React, Postgresql, Jest, Testing Library, HTML, CSS, SQL, Git, Claude Code, Cursor
- Past experience: Vue.js, Next.js, Ruby on Rails, Python, Django, Docker, MySQL, Golang, Swift, SwiftUI, SQLite

## **EDUCATION**

### **Recurse Center**

**Fall 2020**

New York, NY (Remote)

Participated in a 12 week batch and focused on building a real-time map of the NYC subway system.

### **University of California, Santa Cruz**

**2008**

Santa Cruz, CA

### **Bachelor of Arts Degree**

Double Major: Language Studies (Linguistics) and Modern Literature