

# PATRICK CASON

Nashville, Tennessee • +1-615-339-4300 • me@patrickcason.com • linkedin.com/in/patrickcason

## Senior Software Engineer, Front End

Front End Engineer with 15 years of professional experience and over 5 years leading teams up to 80 people. Likes building UI component systems, open-source libraries, and scalable web applications.

## PROFESSIONAL EXPERIENCE

---

### Raise Financial, Nashville, TN

Sep 2017 – Present

#### Chief Technology Officer

- Managed a 5 person engineering team to implement iterations of web application and API development written 100% in Next.js and Typescript, using the Stripe, Plaid, Mailchimp, Alpaca, and Twilio APIs.
- Led design reviews of the web application and user flow using Sketch and Figma with company stakeholders.
- Coordinated with marketing on all branding content such as logos, pitch decks, and executive summaries.

### OpenMined, Lisbon, Portugal / Rio de Janeiro, Brazil

Jul 2017 – Jul 2021

#### Engineering Team Lead (Oct 2020 – Jul 2021)

- Led over 80 remote software engineers, cryptographers, and data scientists divided into 30 sub-teams.
- Drafted technical briefs and documentation for privacy-enhancing technologies such as: Secure Multi-Party Computation, Homomorphic Encryption, Differential Privacy, Federated Learning, Self-Sovereign Identity, Distributed Computing, and Remote Computation.
- Liaised with external partners (Google, Microsoft, Twitter, and the University of California) to write grants totaling over \$2 million for the purposes of funding engineering efforts across the organization.

#### Federated Learning Team Lead (Aug 2019 – Oct 2020)

- Architected the world's first open-source libraries for distributed federated learning on web (Javascript), Android (Kotlin), iOS (Swift), and server/internet of things (Python).
- Coded a bridge library to convert PyTorch and TensorFlow plans into TensorFlow.js operations for trusted execution in remote environments, such as a web browser.
- Authored the entire technical architecture, system design, project roadmap, and grant proposal (totaling \$500,000), while managing a team of over 20 data scientists and software engineers.

#### Web and Mobile Privacy Researcher (Jul 2017 – Aug 2019)

- Served in roles primarily related to system development, software design, and community management - ultimately helping to grow the organization to over 14,000 members from over 80 countries worldwide.
- Awarded a paid 3-month research grant by the RAAIS Foundation out of an applicant pool of over 6,000 people to develop a library for Federated Learning in the browser.

### Satchel Health, Nashville, TN

May 2014 – Jan 2017

#### Director of Engagement (Apr 2016 – Jan 2017)

- Trained over 200 doctors and nursing staff members in over 15 of long-term health facilities across the US.
- Triaged deployment issues and established the user education process to pipeline feedback gathered in the field back to the sales, marketing, design, and engineering teams.

#### Senior Front End Engineer and Designer (May 2014 – Apr 2016)

- Designed and developed the organization's telemedicine software for web (Javascript) and Android (Java).
- Integrated 3 different third-party hardware devices like Google Glass, Bluetooth medical devices to stream live patient vital signs to a remote clinician in a secure HIPAA-compliant environment.
- Delivered live, multi-source audio and video feeds, including patient vital signs, via a purpose-built WebRTC application, coordinating with a horizontally-scaled Redis pub/sub socket server.

**Poliana**, Nashville, TN

Jun 2013 – Dec 2014

**Head of Product**

- Engineered the entire web application using AngularJS, integrated with a Ruby on Rails API.
- Implemented D3.js and other advanced data visualization tools to create interactive data visualizations describing the American political system.
- Aggregated 5 public datasets on the American political system amassing over 110 million rows of unstructured data on lobbying and campaign finance.

**Golden Spiral**, Nashville, TN

Jul 2011 – Aug 2012

**Senior Web Developer**

- Developed over 40 WordPress websites for clients in the music and entertainment industries.
- Collaborated with a designer using the Adobe Creative Suite to translate designs into mobile-first websites.
- Coded 10+ custom PHP WordPress plugins to augment functionality on client websites.

**Freelance**, Nashville, TN

May 2007– Present

**Full-stack Javascript Developer and Designer**

- Delivered over 30 fully-responsive websites, web and mobile applications, and UI component libraries to dozens of clients since high school.
- Collaborated with teams ranging from 2 to 100 people on projects related to finance, healthcare, government, human intelligence, entertainment, and data science.

---

**EDUCATION**

**Belmont University**, Nashville, TN

May 2014

Bachelor's of Web Programming and Design (with a Minor in Entrepreneurship)

Honor Roll, Dean's List

---

**SKILLS**

- |                          |                          |                     |
|--------------------------|--------------------------|---------------------|
| • HTML/CSS – 20 years    | • Stripe – 7 years       | • Figma – 4 years   |
| • Javascript – 17 years  | • WebRTC – 7 years       | • Next.js – 4 years |
| • Adobe Suite – 16 years | • Typescript – 6 years   | • Cypress – 4 years |
| • Wordpress – 12 years   | • D3.js – 6 years        | • Plaid – 4 years   |
| • Node.js – 11 years     | • Google Cloud – 6 years | • Twilio – 4 years  |
| • AWS – 9 years          | • Sketch – 6 years       | • Azure – 2 years   |
| • Firebase – 8 years     | • Webpack – 5 years      | • Angular – 2 years |
| • SQL – 8 years          | • Docker – 5 years       |                     |
| • React – 7 years        | • Jest – 5 years         |                     |

**Familiar**

Python, Ruby on Rails, PHP, and Java