

PATRICK CASON

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Senior Front End Engineer

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 development team to implement iterations of a web application written 100% in Next.js and Typescript, using the Stripe, Plaid, Mailchimp, Alpaca, and Twilio APIs.
- Designed the web application and user flow using Sketch and Figma through iterations with stakeholders.
- Coordinated with marketing on all branding materials 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 totalling 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, project roadmap, and grant proposal (totaling \$500,000), while managing a team of over 20 data scientists and software engineers.

Web & Mobile Privacy Researcher (Jul 2017 – Aug 2019)

- Served in roles primarily related to software development 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.
- Triage deployment issues and established the user education process to pipeline data gathered in the field back to the sales, marketing, design, and engineering teams.

Senior Front End Engineer & 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 & 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 & Design (with a Minor in Entrepreneurship)

Honor Roll, Dean's List

SKILLS

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|--------------------------|--------------------------|---------------------|
| • 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