

Experience

- Oct 2021 — Present **Cockroach Labs** NYC (Remote)
- Built automatic preview deployments for all UI PRs (think self-hosted Vercel)
 - Benchmarked JSON vs multiple protobuf clients in all major browsers
 - Supported UI build systems & infrastructure for CockroachDB and SaaS site (Bazel and node-native)
 - Reduced CockroachDB UI build times by > 3 minutes
 - Set up real-user monitoring and structured error logging in SaaS UI
- Mar 2020 — Oct 2021 **Hulu** Seattle, WA
- Principal Software Developer — Living Room
- Led team of 7 devs through complete UI rewrite, from prototyping to launch
 - Implemented Redux pattern in Roku ecosystem
 - Continued public maintenance of Hulu open-source projects (brs, roca, linter)
 - Integrated OSS browser automation framework for webapp UI testing
 - Formal mentor to two other devs
- Mar 2018 — Mar 2020 **Hulu** Seattle, WA
- Senior Software Developer — Living Room
- Maintained Hulu app on Roku, written in Roku-proprietary language
 - Led team of 5 devs to launch Hulu on Amazon Echo Show
 - Released splitshot (see open-source contributions) to the public, including Hulu Tech Blog post
 - Integrated device-free unit testing for Roku app
 - Became internal point of contact for all Hulu open-source releases
- Mar 2016 — Mar 2018 **Hulu** Seattle, WA
- Software Developer — Living Room
- Maintained HTML/CSS/JS Hulu app on consoles, smart TVs, etc.
 - Worked with team of 4 to launch profiles support in HTML app
 - Embedded with backend team to build initial version of client-facing content API for live TV
 - Investigated app performance for Hulu with Live TV launch
 - Implemented view-model pattern in backend and in Hulu on Roku
- Apr 2015 — Mar 2016 **Amazon.com** Seattle, WA
- Software Development Engineer II — Marketplace Shipping Services
- Designed, implemented, and launched public API to purchase shipping labels for orders
 - Supported external users during six months of private beta of shipping label web service
 - Coordinated team of six developers working simultaneously in new codebase
 - Supported and advised team of India-based developers for contributions to my team's codebase
- Aug 2013 — Apr 2015 **Amazon.com** Seattle, WA
- Software Development Engineer I — Marketplace Shipping Services
- Reduced fatal errors from 1,100 per million requests to 200
 - Contributed to internal tools to read and transform log data
 - Developed and maintained Java service capable of processing ~1,000 requests per-second (peak)
 - Designed async workflow-based service to buy up to 500 shipping labels & merge into one PDF
- Sep 2012 — Jun 2013 **Drexel University Capstone Project** Philadelphia, PA
- Embedded Software Developer — Waterproof Recording Ammeter
- Designed supporting circuits for PIC 18F microcontroller and sensors
 - Implemented I2C sensor readings via vendor library
 - Implemented data persistence on SD card via SPI via vendor library
 - Built USB serial support for configuration via PC

Notable Side Projects

- Feb 2023 ○ **caiac** — Code as Infrastructure as Code
Goal: Have a laugh by writing a Terraform provider that models the Go AST and emits .go files
Status: Published MVP and frozen
<https://github.com/sjbarag/caiac>
- Oct 2020 ○ **thcon** — A command-line tool + config file that switches themes in many apps
Goal: Ease eye-strain by toggling dark mode in multiple tools with fewer steps
Status: Published and actively maintained
<https://thcon.app>
- Dec 2017 ○ **brs** — BrightScript interpreter implemented in TypeScript
Goal: Enable off-device testing by implementing (from-scratch) the language Roku apps are written in
Status: In use but frozen; forked by Roku dev community
<https://github.com/sjbarag/brs>
- Aug 2015 ○ **PNRG (Poorly Named Resume Generator)** — Templated resume source generator
Goal: Reduce effort required to maintain multiple parallel resume formats
Status: Frozen; updated as-needed
<https://github.com/sjbarag/poorly-named-resume-generator>

Notable Open-Source Contributions

- Sep 2020 ○ **git** — Added support for clone.defaultRemoteName config
Status: Submitted and released in 2.30
<https://github.com/git/git/compare/54e85e7af1...de9ed3ef37>
- Jan 2019 ○ **roca** — Roku unit testing framework implemented on top of brs
Status: Developed in public, released, actively maintained with peers
<https://github.com/hulu/roca>
- Jan 2018 ○ **splitshot** — Generates TypeScript declarations from CoffeeScript sources
Status: Developed internally, released, frozen
<https://github.com/hulu/splitshot>
- Sep 2017 ○ **TypeScript** — Automatically inherit JSDoc comments subclasses and subinterfaces
Status: Submitted and released in 2.7
<https://github.com/microsoft/TypeScript/pull/18804>

Education

Drexel University — Graduated Jun 2013

BS in Computer Engineering

BS in Electrical Engineering (Electronics)

Minor in Computer Science

Philadelphia, PA

Cumulative GPA: 3.58 | In-major: 3.63

Skills

Languages

- Bash/POSIX shells
- Docker (as needed)
- Go
- JavaScript / TypeScript
- \LaTeX
- Python
- Rust (still learning)

Particularly Excited About

- Building simple, powerful tooling
- Debugging (weird bugs are fun!)
- Helping developers grow
- Performance optimization

Tools

- AWS S3, DyamODB, SQS, SNS, Lambda
- Bazel
- DBus
- git
- HTTP debugging proxies (Charles, Proxyman)
- Kubernetes (as needed)
- Terraform

Paradigms

- Distributed systems
- HTML Single-Page Apps (SPA)
- HTTP REST (client and server)
- Language Interpreters