

# Allison Embrey Software Engineer

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## 👤 PROFILE

As a back-end software engineer, I love diving deep into the systems that I work with and finding ways to make a codebase more readable and maintainable for everyone on the team. I'm motivated by the opportunity to tackle complex challenges and continually expand my technical expertise. I recently built DataLoaf, an open-source, self-hosted product analytics platform.

## 💻 TECHNICAL EXPERIENCE

### Software Engineer & Co-Creator, Open-Source Project [🔗](#) 2024 – present

DataLoaf is an open-source, self-hosted product analytics platform that provides insight into user engagement with an application. It collects event via an SDK and leverages AWS infrastructure to ingest and store that data. A fullstack application is provided to query and visualize the data by generating insights. An example of an insight would be a line graph that shows the average number of videos that were played on each day over the last week.

- Automated the setup and teardown of more than 50 AWS resources via CLI tool, reducing deployment to 4 steps.
- Engineered a server-side SDK in Node.js to capture custom event and user data from client applications.
- Built a full-stack data visualization application, displaying common analytics aggregations against collected data.
- Produced a TypeScript back-end service to efficiently query and process event data through a REST API.
- Deployed back-end services on EC2 instances using Docker and served the frontend through a containerized Nginx.
- Designed and implemented an ETL pipeline using AWS, capable of ingesting and storing up to 10,000 events per second.
- Enhanced back-end code readability by refactoring approximately 1000 lines of code down to around 200.
- Authored technical case study of DataLoaf's problem domain, exploring key engineering decisions and their tradeoffs.

The case study can be read at: [data-loaf.com](https://data-loaf.com) [🔗](#)

### Software Engineer, deeproot Pinball 2018 – 2020

- Developed new abstraction layer to refactor large codebase, standardizing common patterns and reducing game size by 30%.
- Translated thousands of game rules into event-driven code using an in-house framework, written in Go.
- Monitored games on-site at a major pinball convention, debugging issues in real-time in a live environment.
- Integrated game software with playfield hardware by building power and communication systems for prototype games.
- Diagnosed problems, distinguishing between hardware and software origins, and resolved bugs accordingly.
- Created specification for user and admin menus, improving game configuration and management interfaces.
- Sole software developer for 1 year, collaborating with external partners to extend the framework used for game development.
- Managed a team of five, overseeing rule set coding, frontend development, and design coordination.

## 🧩 SKILLS

### Languages

TypeScript/JavaScript, Go, Java, C/C++

### Back-End

Node.js, Express, PostgreSQL, MongoDB

### Cloud

AWS (API Gateway, Lambda, Data Streams, Firehose, Simple Storage Service (S3), Redshift), Digital Ocean Droplets

### Other

Git/GitHub, Linux, Bash, Nginx, Terraform, Docker, Jest, REST APIs, object-oriented programming, functional programming

## 🎓 EDUCATION

### University of Texas at San Antonio

2008 – 2014

Minor in Computer Science, Bachelor of Science in Mechanical Engineering