

# Alex Bair

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## 📄 PROFILE

I'm a full stack software engineer with extensive experience in JavaScript, TypeScript, and Ruby. I leverage my engineering and project management backgrounds to deconstruct complex problems and drive them to resolution.

## 📁 EXPERIENCE

**Creator, Software Engineer, Willow** [🔗](#) 2024 – present

Willow ([willow-cdc.github.io](https://willow-cdc.github.io)) [🔗](#) is an open-source framework for creating change data capture pipelines. It reflects database changes to a cache in near real-time.

- Developed framework to simplify change data capture pipeline creation from 9 steps to 4 steps.
- Architected and implemented RESTful API facilitating pipeline creation and teardown (Node.js, Express).
- Designed and constructed a custom Kafka connector to transform events from Kafka and send them to a cache (Node.js, KafkaJS, Redis).
- Built user-friendly UI to streamline pipeline management (React, Material UI).
- Resolved Debezium configuration issues preventing multiple pipelines from connecting to the same database (PostgreSQL, Debezium).
- Ensured Willow functions when provided a minimum privileged database user, avoiding the need to provide Willow with superuser privileges.
- Collaborated remotely with an international team of four engineers using daily standups and pair programming (Git, GitHub, Slack).
- Authored comprehensive technical case study ([willow-cdc.github.io/case-study](https://willow-cdc.github.io/case-study) [🔗](#)).

**Software Engineer, Self-employed** 2022 – 2024

Developed freelance and open-source applications including:

- *Whirlpool* - Tool for collecting and debugging webhooks (DO Droplet, Nginx, MongoDB, Express, Socket.io).
- *Media Watchlist* - A media tracking web app (Ruby, Sinatra, PostgreSQL, HTML/CSS).

**Project Management Specialist, Merck** 2019 – 2022

- Led cross-functional teams on a \$46MM capital project portfolio to increase vaccine supply capacity.
- Fostered a collaborative, friendly environment among team members while achieving business objectives.

**Photolithography Process Engineer, Texas Instruments** 2017 – 2019

- Developed detection/interdiction systems using in-house technologies, reducing material holds by 30%.

## 🧠 SKILLS

### Backend

Node.js, Ruby, Golang, PostgreSQL, MongoDB, RESTful APIs, Express, Sinatra, Minitest

### Frontend

JavaScript (ES6+), TypeScript, HTML, CSS, React, Jest, Handlebars

### Other

Git/GitHub, Docker, Linux, Bash, Apache Kafka, Debezium, Nginx, Object Oriented Programming

## 🎓 EDUCATION

**Launch School** 2022 – 2024

Multi-year, mastery-based software engineering curriculum. Read more at [launchschool.com/employers](https://launchschool.com/employers) [🔗](#)

**Rose-Hulman Institute of Technology, B.S. Chemical Engineering** 2013 – 2017