

# Nosson Cotlar

## Senior Software Engineer

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Backend engineer at MacroFab, a cloud manufacturing platform for electronics. Started as an automation specialist and grew into a senior engineering role. The work has ranged from AI-powered quoting to design file pipelines to ripping out legacy systems that were held together with tape. Drawn to the places where software meets physical things.

### EXPERIENCE

#### MacroFab Inc.

Feb 2021 – Present

Automation Specialist > Software Engineer > Senior Software Engineer

Cloud-based contract electronics manufacturing

- Rebuilt several legacy subsystems from scratch. 20x faster, plus much better observability and reliability
- Built an AI-powered quoting system with XGBoost and a custom neural net to predict manufacturing costs for new designs
- Overhauled the design file pipeline to pull manufacturing specs out of unstructured fabrication PDFs automatically
- Owned auth across a distributed microservices architecture
- Built internal tools and developer scripts that cut down day-to-day operational work
- Shipped customer-facing features end-to-end. Code reviews, design reviews, and generally being the person other teams come to with questions

Python · Flask · Perl · Mojolicious · Temporal · AWS · Docker · MySQL · PostgreSQL · XGBoost · OpenAPI · Bash · JavaScript

#### Blue Goat Management LLC

2019 – 2021

System Administrator

Patient-physician pairing and medical records platform

- Designed the AWS infrastructure for a healthcare SaaS product
- Led a mixed team of frontend developers and backend technicians
- Kept infrastructure HIPAA-compliant

AWS · CloudFormation · Docker · Microsoft IIS · SQL Server · ColdFusion · Apache

#### BrainCheck

2017 – 2018

QA Specialist

Cognitive assessment toolset for dementia and concussion diagnosis

- Built testing routines across the platform and the full assessment battery
- Mixed automated UI/API tests with large-scale Mechanical Turk crowd QA
- Filed detailed bug reports and worked with the dev team to triage and fix issues

Postman · Selenium · RainforestQA · TestFlight

### PROJECTS

#### Samson Lift

Wireless hydraulic jack system for lifting houses, roofs, and foundations. Runs on a Raspberry Pi managing relay arrays, pressure sensors, and linear encoders over I<sup>2</sup>C. Live telemetry and controls stream to a web frontend over WebSockets.

Python · WebSockets · Raspberry Pi · I<sup>2</sup>C · Linux

#### GRID4P

Processing library that connects Intech GRID controllers (physical knobs and faders) to generative art sketches. Tweak parameters live without leaving the code.

Processing · Java · Intech GRID

#### Luvnote

Collaborative drawing canvas for remote users. Shared state synced over WebSockets with a p5.js drawing layer.

p5.js · WebSockets · JavaScript

#### Dr1ftP1nk

Costume helmet with a 40x40 LED matrix on the front running animated sequences. Battery powered, all self-contained, programmed in Arduino.

Arduino · LED matrix · Embedded C

#### Genart

Generative art API with multiple rendering engines. Give it a seed, get back reproducible artwork. Also has a Discord bot.

REST API · Generative algorithms · Discord bot

#### ShulScreen

Always-on info dashboard for synagogue lobbies. Designed to be readable across the room on a public screen.

p5.js · JavaScript

#### VoteGoat

Real-time polling platform. Results show up instantly for all connected users, even under high concurrency.

Redis · WebSockets · JavaScript

#### Weddyng

Wedding invitation and RSVP platform. Built it for my own wedding. Handles everything from sending invites to tracking attendance.

Web platform