

# JACK MICHAUD

## Full Stack Engineer

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I am full stack engineer with experience in making secure infrastructure and writing scalable systems. My mission is to write clean, reliable, and resilient code and grow in a fast paced environment. In a leadership position, I lead by example and elevate the best qualities in my teammates.

## EXPERIENCE

### Full Stack Engineer

Knock ( knockcrm.com )

📅 Jun 2020 – Present    📍 (Remote) Seattle, WA

- Hacked on CRM application with legacy Python 2 and AngularJS (developed plans to modernization into Python 3 microservices).
- Designed, planned, wrote, and deployed scalable email service. Handled 5+ GB of data per minute with 0 downtime since launching in November 2021.
- Created canary Terraform module for safely launching changes to test with production traffic
- Developed system design documents guiding company-wide efforts for modern Terraform and Jenkins deployments (and adopting the canary module).
- Reviewed technical designs from throughout the org.

### Full Stack Engineer

Metascouter, Inc ( metascouter.gg )

📅 May 2018 – Jun 2020    📍 (Remote) Seattle, WA

- Constructed APIs (REST, GraphQL) and broadcast graphics (ReactJS) for integrating data into major esports broadcasts.
- Designed and developed full stack infrastructure while coordinating with remote team.
- Created real-time data pipeline using MQTT, Protobuf, and queueing to ingest data from computer vision software. (Deployed with CloudFormation).
- Implemented serverless AWS architecture with DynamoDB, Lambda, and API gateway with GraphQL interface.
- Carried out growth marketing experiments with AdWords and Google Analytics.
- Started closed beta engaging with 5 end users actively using our product.
- Released 1.0 software after iterating on feedback.

### Software Development Co-Op

Solaria Labs ( solarialabs.com )

📅 Jul 2018 – Dec 2018    📍 Boston, MA

- Implemented serverless AWS data pipeline and generic CloudFormation template generation.
- Collaborated actively with 2-3 teams writing Python and JS backend code, JS frontend, building CI pipelines, and integrating said data pipeline.
- Evaluated open source and commercial business data on location data for reliability against ground truth.

### Founding Partner

Harrow Search ( harrowsearch.com )

📅 Oct 2015 – Jul 2019    📍 Manchester, NH

- Established LLC for a website that displays analytics from data scraped from YouTube, Twitter, Facebook, and Instagram.
- Created web application stack with Django, ReactJS, Selenium, and Docker. Implemented CI/CD in Gitlab.
- Supervised and directed three temporary contractors.

## EDUCATION

### Northeastern University

B.S. in Computer Science

📅 Graduated: May 2020

- **Networking and Distributed Systems:** Implemented custom distributed systems like Raft and a custom TCP implementation
- **Software Development:** Developing software using engineering best practices (SRS documents, Scrum/Agile, testing)
- **Large Scale Parallel Data Processing:** Learned to design efficient algorithms in Hadoop and Spark
- **Systems Security:** Learned to mitigate operating system security in embedded, mobile, and desktop devices (RBAC, secure execution, chain of trust)

## RELEVANT SKILLS

### Languages

Python

TypeScript/JavaScript

Golang

Rust

Java

### Tools

Terraform

Docker

CI/CD (Jenkins, CircleCI, Bamboo, Gitlab)

Vim

Emacs

GNU/Linux

### Skills In Development

Interplanetary Filesystem (IPFS)

Nix

## INTERESTS/ACTIVITIES

🗣️ Coach for Collegiate Cyber Defence Club (CCDC)

🖥️ Self-hosted services and home lab

🎵 DJing and Music Production

♥️ Hiking

# PROJECTS

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## Ephemeral Server (2021)

<https://github.com/jack-michaud/ephemeral-server>

- A Go Discord bot used to manage a self hosted Minecraft servers for as-needed hosting
- Uses Ansible and Terraform to provision and configure servers
- CI/CD with Semantic Release and multi-architecture docker builds

## "Hoobastank" Data Collection (2021)

<https://git.xskj.org/jack/hoobastank> (Private)

- A Go program for data collection from UDP telemetry
- Collects telemetry data from Forza Horizon 5 and F1 (2021)
- Dockerized and deployed for private use with docker compose

## Washington State Academy of Audiology (2020)

<https://washingtonaudiology.org>

- A JAMStack website built for my partner's professional organization
- Implements email automation for new members with a validation interface for confirming new members
- Automatically adds new members to constant contact email list
- Accepts payments for membership dues with Stripe

## Rust Discord Bot (2020)

<https://github.com/jack-michaud/gl2n>

- A bot that interacts with Discord's low level websocket API
- Written to be reliable (99% SLA) and configurable (through rule based DSL)
- Powers personal entertainment for chat room; manages Minecraft server, downloads videos, and performs reverse image searches on uploaded images.

## Portfolio Site (2019)

<https://github.com/jack-michaud/portfolio>

- Personal portfolio - <https://portfolio.lomz.me>
- JAMStack site built with Next.js
- Markdown blog posts statically rendered

## PythonWebsocketRCE (2018)

<https://github.com/jack-michaud/PythonWebsocketRCE>

- Created a CLI for controlling captive JS and bash clients over a network.
- Designed an API for running distributed programs and for remotely executing code.