

# Jacob Casper

SENIOR SOFTWARE ENGINEER

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## Objective

Full stack developer with DevOps experience. Loves privacy by default. The kind of person who runs a local DNS. Interested in solving problems that make a difference.

## Work Experience

### DefenseStorm, Inc.

TECH LEAD

*Remote, Earth*

*Nov. 2022 - Present*

SENIOR SOFTWARE ENGINEER

*Jan. 2021 - Nov. 2022*

### IBM - SoftLayer

SOFTWARE DEVELOPER

*Dallas, Texas*

*Apr. 2018 - Jan. 2021*

- Created a distributed worker architecture using RabbitMQ that reduced runtime of a 20-hour batch process to minutes.
- Enable process visibility and communication between distributed services by creating a message passing framework.
- Designed alerting tool for Continuous Integration by scripting git internals to detect exact commit responsible for a test suite regression.
- Develop Influx queries for anomaly detection in API submissions to prevent revenue losses of \$1m/month.
- Scale billing systems that process billions of USD worth of customer transactions.

## Skills

**Languages** Python, Go, Java, Bash, PHP, JavaScript

**Technologies** Linux, SQLite, PostgreSQL, Flask, RabbitMQ, systemd, Jenkins, InfluxDB

**Practices** CI/CD, Git, Docker, Cloud deployments, REST APIs, Unit Testing, Agile

## Education

### North Carolina State University

B.S. IN COMPUTER SCIENCE

*Raleigh, North Carolina*

*Dec. 2017*

- 3.60 GPA

## Projects

### Open Austin

EVICTION HEARING SCRAPER

*Austin, Texas*

*May 2020*

- Open Data Initiative to create a data source for Austin, TX eviction cases to aid tenant action organizers during COVID-19 evictions.
- Infrastructure is also collecting historical eviction data for The Eviction Lab at Princeton University.
- Reverse engineer old-school ASP.NET form requirements, parse HTML data with BeautifulSoup.
- Optimized for streaming workloads as bulk datasets can exhaust single machine memory limits.
- Self-serve query and upload requests supported by a Flask application wrapping the parsing library.

### Personal

MERCURYMS

*Remote, Earth*

*Apr. 2020*

- Media upload service that bridges Twilio MMS API with a NextCloud instance anywhere.
- Low footprint hand-rolled message queue implementation to allow replaying upload requests efficiently in light of network or service failure.
- Daemons handle adding work to message queue and communicating with listening service can be distributed across multiple machines.

### Personal

SOCKGIT

*Remote, Earth*

*Apr. 2020*

- Rust daemon that simplifies manually creating and mirroring personal Git repositories with read-only access on any machine.
- Systemd service running on x86 and ARM instruction sets.