Jacob **Casper**

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

IBM - SoftLayer
Dallas, Texas

SOFTWARE DEVELOPER
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
Raleigh, North Carolina

B.S. IN COMPUTER SCIENCE
Dec. 2017

- 3.60 GPA

Projects

Open Austin
Austin, Texas

EVICTION HEARING SCRAPER
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
Remote, Earth

MERCURYMS
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
Remote, Earth

SOCKGIT
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.

Avanade & NCSU
Raleigh, North Carolina

SENIOR DESIGN - CSIR
Aug. 2017 - Dec. 2017

- Built Django REST API that allows users to submit infrastructure requests
- Displayed data from REST API in ReactJS frontend application
- Pulled ongoing project data from ArcGIS using Python service