

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.

Remote, Earth

TECH LEAD - PLATFORM

Nov. 2022 - Present

- Redesigned scraping alert microservice to support an event-based workflow.
- Enabled machine learning teams to incorporate alert detection models in alert generation by leveraging push-driven workflow.
- Rewrote notification logic to prevent degradations in external services from impacting core alerting stability and improve customer visible KPIs.
- Designed schemas, performed task breakdowns, and architected projects for a team of developers.

SENIOR SOFTWARE ENGINEER

Jan. 2021 - Nov. 2022

- Improved internal only service API structure to develop a customer integratable public API, with authorization and authentication.
- Developed near real-time, event-driven fraud detection framework; optimized using SQS, multi-threading and Java Promise APIs.
- Halved build times in distributed log processing service by optimizing code and dependencies.
- Migrated existing U2F login support to WebAuthn seamlessly. [Blog post](#)

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.
- Enabled 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.
- Developed Influx queries for anomaly detection in API submissions to prevent revenue losses of \$1m/month.
- Scaled billing systems that process billions of USD worth of customer transactions.

Skills

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

Technologies Linux, AWS, SQLite, PostgreSQL, Elasticsearch, S3, 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.
- Optimized for streaming workloads as bulk datasets can exhaust single machine memory limits.

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.