

Fan Pu Zeng

SYSTEMS AND INFRASTRUCTURE ENGINEER

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Summary

I have industry experience working on both full-stack web applications and infrastructure at scale. I have deep UNIX knowledge and love playing cyber-security Capture-The-Flag competitions. I enjoy learning new things and I am interested to work on challenging problems in systems, cybersecurity, and infrastructure.

Education

Carnegie Mellon University

Pittsburgh, PA, USA

B.S. IN COMPUTER SCIENCE WITH A CONCENTRATION IN COMPUTER SYSTEMS

Aug. 2018 - Expected May. 2022

- GPA: 4.0, Dean's List
- Member of the Plaid Parliament of Pwning (PPP), CMU's competitive hacking team. I specialise in binary exploitation and reverse engineering.
- Selected courses:
 - Cloud Computing (Skills: AWS, Azure, GCP, Terraform, Docker, Kubernetes, MySQL, MongoDB, HBase, Neo4j, Hadoop MapReduce, Spark, Kafka, Samza)
 - Operating System Design and Implementation
 - Undergraduate Complexity Theory
 - Parallel Data Structures and Algorithms
 - Compiler Design
 - Great Theoretical Ideas in Computer Science
 - Database Systems
 - Foundation of Programming Languages
 - Introduction to Computer Security
 - Principles of Functional Programming
 - Introduction to Computer Systems
 - Electronics
 - Algorithm Design and Analysis

Work Experience

Facebook

Menlo Park, CA, USA

PRODUCTION ENGINEER INTERN (TUPPERWARE SCHEDULER TEAM)

May 2020 - Aug 2020

- Designed and built a performance testing tool from scratch for Facebook's deployment system for internal backend services, Tupperware. The Tupperware Scheduler, which is in charge of allocations, healthchecks, and migrations on millions of servers daily, is targeted.
- Performance testing is achieved by replaying requests against a test Tupperware scheduler to benchmark performance
- Enhanced tool to record production requests by shadowing requests for Service Router, Facebook's internal fault-tolerant routing framework
- Queried metrics like CPU, memory usage, latency, errors, from the Operational Data Store (ODS) in order to detect regressions in scheduler performance
- Bundled tool with Facebook's internal packaging system fbpkg and configured it to run daily in production with Chronos

Asana

San Francisco, CA, USA

SOFTWARE ENGINEERING INTERN (INFRASTRUCTURE MANAGEMENT)

May 2019 - Aug 2019

- Achieved better infrastructure modularity and significant cost savings by improving in-house Kubernetes deployment framework on AWS to allow worker clusters to share EKS control planes. Used Python, Boto3, CloudFormation extensively.
- Served twice as Infrastructure Management On-Call to investigate, triage, and fix infrastructure failures on Linux-based systems including infrastructure breakages due to bad commits by other developers, CI/CD pipeline failures, Kubernetes deployment failures, AMI build failures, AWS rate-limiting problems, Datadog alerts
- Shadowed senior engineer as Infrastructure On-Call Trainee to respond to urgent infrastructure failures. Involved in resolving a major customer-facing outage (2h downtime) due to sharded MySQL database contention issues
- Created testing framework for Pylint lint rules to be run during the Bazel build process

Saleswhale (YC S16)

Singapore, Singapore

JR. SOFTWARE ENGINEER

Nov. 2017 - Aug. 2018

- Regularly delivered core product features and bug fixes for the main Saleswhale app with Rails, Ember.js, RSpec, Redis, Sidekiq. Contributed to product meetings and sign-offs.
- Empowered the Customer Success team in performing account onboarding and management by architecting and building an internal tool from scratch with Rails, Ember.js, RSpec, SemanticUI, Gulp. Regularly updated it to support operational requirements of the company's product roadmap
- Drastically reduced product testing times and accelerated feature releases by building and automating the deployment of a testing framework micro-service with Rails, AWS SQS, Docker, Fabric from scratch to mock the asynchronous operations of a bottleneck micro-service

Honors & Awards

- 2020 **Second Place**, DEF CON 28 Capture-The-Flag Competition
- 2019 **Third Place**, CSAW Capture-The-Flag Competition
- 2019 **Second Place**, CSAW Security Quiz Bowl
- 2018 **First Place**, Home Invasion 2018 (IoT-CTF)
- 2018 **Winner, People's Choice**, NUS Hack&Roll 2018
- 2015 **Silver Award**, National Olympiad in Informatics

Las Vegas, NV, USA

NYC, NY, USA

NYC, NY, USA

Singapore

Singapore

Singapore