Fan Pu **Zeng**

Software 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 have used Linux as my primary OS for over 9 years. 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
- Compiler Design
- Database Systems
- Introduction to Computer Security
- Introduction to Computer Systems
- Algorithm Design and Analysis
- Undergraduate Complexity Theory
- Parallel Data Structures and Algorithms
- Great Theoretical Ideas in Computer Science
- Foundation of Programming Languages
- Principles of Functional Programming
- Electronics

Work Experience

Facebook
Menlo Park, CA, USA

Production Engineer Intern (Tupperware Scheduler)
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, 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 microservice with Rails, AWS SQS, Docker, Fabric from scratch to mock the asynchronous operations of a bottleneck micro-service

Honors & Awards

2019	**Third Place**, CSAW Capture-The-Flag Competition	*NYC, NY, USA*
2019	**Second Place**, CSAW Security Quiz Bowl	*NYC, NY, USA*
2019	**Third Place**, Hackberry Pi (Hackathon)	*Pittsburgh, PA, USA*
2018	**First Place**, Home Invasion 2018 (IoT-CTF)	*Singapore*
2018	**Winner, People's Choice**, NUS Hack&Roll 2018	*Singapore*
2015	**Silver Award**, National Olympiad in Informatics	*Singapore*