

Fan Pu Zeng

SOFTWARE ENGINEER

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Summary

I have 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 8 years. I enjoy learning new things and I am looking to expand my horizons and step out of my comfort zone by working on challenging problems in systems, infrastructure, or cybersecurity.

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 (2019)
- Clubs:
 - Member of the Plaid Parliament of Pwning (PPP), CMU's competitive hacking team. I specialise in binary exploitation.
- Selected courses:
 - Cloud Computing (Skills: AWS, Azure, GCP, Terraform, Docker, Kubernetes, MySQL, MongoDB, HBase, Neo4j, Hadoop MapReduce, Spark, Kafka, Samza)
 - Introduction to Computer Systems
 - Principles of Functional Programming
 - Parallel Data Structures and Algorithms
 - Multi-Dimensional Calculus
 - Introduction to Computer Security
 - Algebraic Structures
 - Great Theoretical Ideas in Computer Science

Work Experience

Asana

San Francisco, 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, 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
- Automated installation of Python3 on all developer machines
- Enable greater developer velocity and erase technical debt by converting infrastructure scripts from Python2 to Python3
- Created testing framework for Pylint lint rules to be run during the Bazel build process

Autolab

Pittsburgh, USA

PROJECT LEAD (DEVOPS)

Nov. 2018 - Current

- Lead feature development and maintenance of open source project Autolab, a platform for auto-grading programming assignments used by 5000 students in CMU and 20+ universities worldwide
- Improved adoption by simplifying Autolab setup flow by using Docker Compose to automate provisioning and configuration of frontend and backend grading servers
- Lead effort to keep project infrastructure up to date by upgrading Autolab to Rails 5 and Python 3

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

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

NYC, NY, USA

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Pittsburgh, PA, USA

Singapore

Singapore

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