Fan Pu **Zeng**

Software Engineer

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Summary

I have experience working on both infrastructure at scale at Asana as well as full-stack systems at Saleswhale. I can work in cross-functional teams, effectively investigate and resolve infrastructure problems by synthesizing logs and metrics from many sources, work autonomously on open-ended problems, and translate product requirements into technical features. I am looking to expand my horizons and step out of my comfort zone by working on challenging problems in systems and infrastructure.

Education

Carnegie Mellon University   *Pittsburgh, PA, USA*

B.S. in Computer Science   *Aug. 2018 - Expected May. 2022*

- GPA: 4.0, Dean's List (2019)
- Activities:
- Plaid Parliament of Pwning (Cybersecurity & CTF competitions)
- Selected courses:
- Cloud Computing
- Introduction to Computer Systems
- Parallel Data Structures and Algorithms
- Introduction to Computer Security
- Great Theoretical Ideas in Computer Science
- Principles of Functional Programming
- Multi-Dimensional Calculus
- Algebraic Structures

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 to allow worker clusters to share AWS EKS control planes. Used Boto3, CloudFormation extensively. Design document written and circulated internally for future enhancement
- Served twice as Infrastructure Management On-Call to investigate, triage, and fix infrastructure failures and issues including broken infrastructure due to bad commits, Kubernetes deployment failures, AMI build failures, AWS rate-limiting problems, Datadog alerts
- Shadowed senior Infrastructure engineer as Infrastructure On-Call Trainee to respond immediately to urgent infrastructure failures and outages via PagerDuty alerts and approve/deny production change requests. Involved in resolving a major infrastructure outage (2h downtime) due to MySQL database contention issues
- Automated installation of Python3 on all developer machines
- Enable greater developer velocity and erase technical debt by incrementally converting infrastructure scripts from Python2 to Python3
- Created a testing framework for Pylint lint rules to be run during the Bazel build process

Autolab   *Pittsburgh, USA*

Project Lead (DevOps)   *Nov. 2018 - Current*

- Lead 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, management, and health reporting by architecting and building an internal tool from scratch with Rails, Ember.js, Rspec, SemanticUI, Gulp. Took ownership of it and regularly updated it to support the internal operational requirements of our product roadmap and in response to user feedback
- 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	**Finalist**, CSAW Capture-The-Flag Competition	*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*