Chengze Fan

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Education

Carnegie Mellon University - School of Computer Science *Pittsburgh, PA*
Master of Computational Data Science | GPA: 4.0/4.0 *Aug. 2018 - Dec. 2019 (Exp.)*

Tsinghua University *Beijing, China*
B.E. in Electronic Engineering | GPA: 3.7/4.0 *Aug. 2014 - Jul. 2018*

University of California, Berkeley *Berkeley, CA*
Summer Session Student *Jun. 2016 - Aug. 2016*

Skills

Programming Languages: **Proficient:** C/C++, Python **Familiar:** Go, JAVA, MATLAB, JavaScript, SQL, Bash
Tools: Pytorch, Django, Docker, Hadoop, Spark, AWS, MongoDB, DynamoDB, Redis, Kafka, Git

Experience

Sensetime Corp. *Beijing, China*
Software Development Intern *Mar. 2018 - Jul. 2018*

- Delivered an oncall system, which automatically detects failure occurrences and resolution in data centers by exposing RESTful APIs to monitoring systems.
- Built micro-services of notification method (Call, SMS, Wechat) to automatically notify corresponding people.
- Reduced average troubleshooting time by 23%.

Distributed Systems and Networking Lab, Purdue University *West Lafayette, IN*
Research Assistant *Mar. 2017 - Sep. 2017*

- Proposed novel ideas of sampling CoFlows to minimize communication overhead between computation nodes.
- Developed a network flow scheduling system in datacenters with novel algorithms and integrated it into Hadoop.
- Outperformed the state-of-the-art scheduler by 49% on average CoFlow completion time.

Projects

Network Simulator for Programmable Data Plane
Main Contributor of an Open Source Project

- Integrated a programming language for network devices, P4, into a network simulator ns-3.
- Developed a tool to solve a critical problem in P4 research: evaluation is limited and related to host computers.
- Presented a demo at the most notable conference of computer networks, ACM SIGCOMM.

Video Emotion Classification System
Independent Project

- Trained a fusion deep neural network and built a system to classify short videos into different emotions categories.
- Performed tasks of preprocessing, face detection, face alignment, emotion feature extraction and classification.
- Increased the classification accuracy from 80% (the best result published) to 85%.

Website and Platform of Strategic Programming Competition
Independent Project

- Built a Docker-driven testing platform to run, judge and score user-uploaded source codes, and to automatically distribute workload among the server cluster using Nginx load balancer.
- Wrote the back-end of a website of a competitive programming contest using Django and MySQL.
- Established and Maintained a cluster of 12 servers and handled over 100,000 submission requests overall.

Publications

- Chengze Fan, J. Bi, Y. Zhou et al. **NS4: A P4-driven Network Simulator.** (ACM SIGCOMM '17)
- J. Bai, J. Bi, P. Kuang, Chengze Fan et al. **NS4: Enabling Programmable Data Plane Simulation**(ACM SOSR '18)