Tianyu Sun

CONTACT INFORMATION

https://tianyu-sun.github.io mobile: +1 (858) 214-0007
https://www.linkedin.com/in/tianyu-sun/ e-mail: t9sun@eng.ucsd.edu

EDUCATION

University of California, San Diego, La Jolla, CA, USA
M.S., Computer Science, GPA: 3.85/4.0 **Sept. 2019 – Dec 2020(Expected)**

University of Science and Technology Beijing, Beijing, China
B.E., Computer Science **Aug. 2015 – June 2019**

RELEVANT PROFESSIONAL EXPERIENCE

Tencent
Research Intern **Dec. 2018 – Aug. 2019**

- Participated in Virtual Host project, which aims at generating a virtual host for game streaming and weather broadcasting. Developed modules for face segmentation and alignment. Used NumPy and OpenCV with a 4-engineer team. Module adopted by a million-DAU mobile application.
- Worked on developing a robust and efficient system for generating realistic videos with generative adversarial networks. Proposed a stat-of-the-art face reenactment model. Used PyTorch with a 3-researcher team.

National Laboratory of Pattern Recognition
Institute of Automation, Chinese Academy of Sciences
Research Intern **June 2017 – Sept. 2018**

- Proposed a method of increasing the accuracy of gait recognition by heightening the frame rate with generative adversarial networks, which achieved performance comparable to a state-of-the-art model with an 8-layer base model. Used TensorFlow with a 4-researcher team. The publication can be seen in *Frame-GAN*.
- Segmented human parts of a large Person Re-ID dataset with more than a million images with DensePose. Extracted features of the images with ImageNet Pre-trained models for further research. Used TensorFlow with a 2-researcher team.

SELECTED PROJECTS

Lego-Serverless Platform

- Developed Lego-Serverless Platform, an event handling and function creation platform for modern serverless services, with a 4-engineer team using Python.
- Responsible for data pipeline and high-level load balancing. Designed and developed data infrastructure based on Kafka and CouchDB.
- Lego-Serverless provides RESTful API for function and event CRUD. Additional management functions like user authentication and function authorization are supported too. Platform can handle 2,000 QPS based on single-node testing on AWS EC2 instance.

Distributed Storage System

- Built a distributed storage system based on Raft consensus algorithm using Golang.
- Implemented leader election, file replication, and data persistence mechanisms. Designed RPC for communication between nodes.
- System achieves high fault-tolerance, whose alailability is garanteed given more than half the servers are operational.

Yelp Camp

- Built a web app from scratch to enable users sharing pictures of camping locations.
- Designed and implemented responsive UIs with Bootstrap. Built backend services constructed in Node.js and MongoDB, in order to deliver a seamless user experience on the platform.
- Designed authentication feature, through which users can sign up with email or login with username and password. A security mechanism is implemented to prevent users to modify posts of other users.

SKILLS

Frameworks, Databases and Tools
Kafka, Docker, Git, AWS, PyTorch, TensorFlow, OpenCV, MySQL, MongoDB, Spark, Node.js

Programming Languages
Python, C++, C, Golang, JAVA, SQL, Haskell