

Tianyu Sun

CONTACT INFORMATION	https://tianyu-sun.github.io https://www.linkedin.com/in/tianyu-sun	mobile: +1 (858) 214-0007 e-mail: t9sun@eng.ucsd.edu
EDUCATION	University of California, San Diego , La Jolla, CA, USA <i>M.S., Computer Science</i> GPA: 3.85/4.0 Sept. 2019 – Dec. 2020(Expected) University of Science and Technology Beijing , Beijing, China <i>B.E., Computer Science</i> Aug. 2015 – June 2019	
RELEVANT PROFESSIONAL EXPERIENCE	Aibee US <i>Research Intern</i> June 2020 – Sept. 2020 <ul style="list-style-type: none">Working on algorithmic optimization for production-level intelligent parking lot solution. Tencent <i>Research Intern</i> Dec. 2018 – Aug. 2019 <ul style="list-style-type: none">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 4 engineers. 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 state-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 <i>Research Intern</i> June 2017 – Sept. 2018 <ul style="list-style-type: none">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 <i>Frame-GAN</i>.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 Distributed Platform <ul style="list-style-type: none">Developed Lego-Serverless Platform, an event handling and function creation platform for modern serverless services, with a 4-engineer team using Python.Designed a two-level load balancing mechanism, a high-level round-robin load balancer, and a middle-level Raft load balancer. Responsible for implementing 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 <ul style="list-style-type: none">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 availability is guaranteed given more than half the servers are operational. A crash recovery mechanism is implemented as well. Camping Web Application <ul style="list-style-type: none">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 a security mechanism and implemented an authentication feature.	
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	