

# Tianyu Sun

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CONTACT INFORMATION	<a href="https://tianyu-sun.github.io">https://tianyu-sun.github.io</a> <a href="https://www.linkedin.com/in/tianyu-sun">https://www.linkedin.com/in/tianyu-sun</a>	mobile: +1 (858) 214-0007 e-mail: t9sun@eng.ucsd.edu
EDUCATION	<b>University of California, San Diego</b> , La Jolla, CA, USA <i>M.S., Computer Science</i> GPA: 3.85/4.0 <b>University of Science and Technology Beijing</b> , Beijing, China <i>B.E., Computer Science</i>	<b>Sept. 2019 – Mar. 2021(Expected)</b> <b>Aug. 2015 – June 2019</b>
RELEVANT PROFESSIONAL EXPERIENCE	<b>Aibee US</b> <i>Research Intern</i> <ul style="list-style-type: none"><li>Designed and implemented a model that improves the vehicle Re-ID performance by taking pose into consideration. Achieved a performance boost from 85.4% to 97.3% on TPR@FPR=0.01.</li><li>Converted the PyTorch model to Caffe model and shipped it to intelligent parking lot production with a 5-engineer team.</li><li>Developed an internal tool for new car model discovery using Re-ID architecture.</li></ul> <b>Tencent</b> <i>Research Intern</i> <ul style="list-style-type: none"><li>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.</li><li>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.</li></ul> <b>National Laboratory of Pattern Recognition</b> <b>Institute of Automation, Chinese Academy of Sciences</b> <i>Research Intern</i> <ul style="list-style-type: none"><li>Proposed a method of increasing the accuracy of gait recognition by heightening the frame rate with generative adversarial networks. Used TensorFlow with a 4-researcher team. The publication can be seen in <i>Frame-GAN</i>.</li><li>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.</li></ul>	<b>June 2020 – Sept. 2020</b> <b>Dec. 2018 – Aug. 2019</b> <b>June 2017 – Sept. 2018</b>
SELECTED PROJECTS	<b>Lego-Serverless Distributed Platform</b> <ul style="list-style-type: none"><li>Developed Lego-Serverless Platform, an event handling and function creation platform for modern serverless services, with a 4-engineer team using Python.</li><li>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.</li><li>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.</li></ul> <b>Distributed Storage System</b> <ul style="list-style-type: none"><li>Built a distributed storage system based on Raft consensus algorithm using Golang.</li><li>Implemented leader election, file replication, and data persistence mechanisms. Designed RPC for communication between nodes. A crash recovery mechanism is implemented as well.</li></ul> <b>Camping Web Application</b> <ul style="list-style-type: none"><li>Built a web app from scratch to enable users sharing pictures of camping locations.</li><li>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.</li></ul>	
SKILLS	<b>Frameworks, Databases and Tools</b> Kafka, Docker, Git, AWS, PyTorch, TensorFlow, OpenCV, MySQL, MongoDB, Spark, Node.js <b>Programming Languages</b> Python, C++, C, Golang, JAVA, SQL, Haskell	