

Tianyu(Terry) Sun

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| CONTACT INFORMATION | https://tianyu-sun.github.io https://www.linkedin.com/in/tianyu-sun | mobile: +1 (858) 214-0007 e-mail: tterrystun@gmail.com |
| EDUCATION | University of California, San Diego <i>M.S., Computer Science</i> University of Science and Technology Beijing <i>B.E., Computer Science</i> | Sept. 2019 – Mar. 2021 Aug. 2015 – June 2019 |
| PROFESSIONAL EXPERIENCE | SambaNova Systems <i>Compiler Team</i> <ul style="list-style-type: none">Designed and implemented highly-scalable infrastructure for large-scale data and model parallel, supporting multi-dimensional data parallel, fine-grained hierarchical data distribution management, and efficient cross-socket traffic planning.Designed and implemented compiler infrastructure for data parallel on heterogeneous hardware, including bit-file packing and consistency checking support. US patent granted.Improved resource and performance modeling at compile time and extended compiler resource modeling for multiple architectures with varying compute resources and memory bandwidths.Brought up a config development toolkit, resulting in a 10X increase in efficiency and widely adopted by hundreds of applications. Aibee US <i>Parking Lot Team</i> <ul style="list-style-type: none">Designed and implemented a model that improves the vehicle Re-ID performance by considering pose. Increased performance from 85.4% to 97.3% on TPR@FPR=0.01. Converted the PyTorch model to a Caffe model and shipped it to intelligent parking lot production.Developed an internal tool for new car model discovery leveraging pre-trained Re-ID models. Tencent <i>Tencent AI Lab</i> <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 face segmentation and alignment modules, which were subsequently adopted by a million-DAU mobile application.Proposed a state-of-the-art face reenactment model as part of a highly robust and efficient video generation system using generative adversarial networks. Institute of Automation, Chinese Academy of Sciences <i>National Laboratory of Pattern Recognition</i> <ul style="list-style-type: none">Proposed a method of boosting the accuracy of gait recognition by increasing the frame rate with generative adversarial networks. Published as <i>Frame-GAN</i>. | Apr. 2021 – Present June 2020 – Sept. 2020 Dec. 2018 – Aug. 2019 June 2017 – Sept. 2018 |
| 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.Designed a two-level load balancing mechanism consisting of a high-level round-robin load balancer and a middle-level Raft load balancer. Implemented 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. The platform can handle 2,000 QPS in a single-node testing on an AWS EC2 instance. Distributed Storage System <ul style="list-style-type: none">Built a distributed storage system using Golang based on the Raft consensus algorithm.Implemented leader election, file replication, and data persistence mechanisms. Designed RPC for communication between nodes. A crash recovery mechanism is implemented as well. | |
| SKILLS | Frameworks and Tools MLIR, PyTorch, Kafka, TensorFlow, OpenCV Programming Languages C++, Python, Golang, C, SQL, JAVA, Haskell | |