Yinzhe Zhang

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EDUCATION

University of California, Santa Cruz Jan 2023-Present
First year Computer Science Ph.D. Student
Overall GPA: NA/4.0

Virginia Polytechnic Institute and State University July 2022-Jan 2023
First year Computer Science Ph.D. Student
Overall GPA: NA/4.0

Georgia Institute of Technology Aug 2020-Jun2022
MS of Electrical and Computer Engineering
Overall GPA: 4.0/4.0

Shanghai Jiao Tong University Sept 2016-Jun 2020
B. Eng of Information Engineering
Overall GPA: 3.3/4 | GPA of each academic year (from 1st to 3rd): 3.05|3.3|3.55

PROJECT EXPERIENCE

DHT-based Graph-Stream Processing System Aug 2022 - Apr 2023

- Based on the DHT-based Pastry system, built a system prototype that can realize streaming data processing (Wordcount/Top-K count).
- Based on the DHT-based Pastry system, built a system prototype that can realize graph data processing (PageRank and Connected components).
- Evaluated the prototypes with real-world dataset (Riot-Bench/Stanford Snap)

Yolov3-KCF-KF based detect-tracking and Location-determining system (Undergraduate Thesis) Feb 2020-Jun 2020

- Through a trained You-Only-Look-Once network followed by an enhanced Kernel Correlation Filter to detect and then continuously track pedestrian and cars.
- Used similar geometric relations to estimate the distance between objects and camera, then through a Kalman filter to reduce error, improve the accuracy of object location estimation.
- Tested the system on the UAV123 dataset and real-life scenes, got a relatively satisfactory result of only having a 8% error on distance estimation.
- Open-sourced on GitHub at: https://github.com/HigashikataZhangsuke/Tracking_by_detection, got 34 stars so far.

HONORS & AWARDS

3rd Prize, Shanghai JiaoTong University Drone Intelligent Sense Competition (Top 11%) Jul 2019-Aug 2019
1st Prize of Shanghai Division, China Undergraduate Mathematical Contest in Modeling(Top 20%) Sept 2018
Honorable Mention, Mathematical Contest in Modeling(Top 30%) Feb 2018

COMPETITIONS

Drone Intelligent Sense Competition: Construction of vision module for drone perception system Jul 2019-Aug 2019

- Trained a tiny You-Only-Look-Once network with data augmentation methods, achieved an 81.3% accuracy rate for digital signage recognition, raised 8% than not augmented.
- Frozen and transferred tiny YOLO network by TensorFlow and Openvino, deployed it on the Intel neural compute stick to achieve 10fps real-time detection.

China Undergraduate Mathematical Contest in Modeling: RGV Dynamic Scheduling Problem Sept 2018
Team Leader

- Used greedy algorithm, achieved to increase the efficiency of one hypothetical assembly line operation to 90%.
- Applied greedy algorithm and genetic algorithm, put forward a robust multi-process task assignment scheme that for randomly added malfunctions, the reduction of efficiency is less than 3.6%.
- Through MATLAB simulation, verified the validity of the above method and extend to other multi-line situations

Mathematical Contest in Modeling Feb 2018
Team Member

- Assisted in the construction of AHP method for the evaluation model and used this model to predict the changes in the number of people speaking different languages in the world and the geographical distribution of these languages over the next 50 years.

SKILLS

Programming Languages: Python, MATLAB, Java, C++, Latex

Systems: Linux (Ubuntu/Server), ROS

TA EXPERIENCE

CSE293 Advanced topic in computer engineering (system track)

- Responsible for teaching lectures.
- Responsible for final projects designs of the course
- Provide project technical guidance for all students in the course.