Lin ZHANG

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EDUCATION

The Hong Kong University of Science and Technology *Sept 2016 – June 2020*

Bachelor of Science in Computer Science & Mathematics | Hong Kong | GPA 3.96/4.3 (Top 1%)

- Coursework: Computer Graphics | Honors Object Oriented Programming and Data Structure

Swiss Federal Institute of Technology in Zurich *Sept 2018 – Feb 2019*

Undergraduate Exchange | Zurich, Switzerland

- Coursework: Machine Learning | Computer Vision | Data Mining | Artificial Intelligence

RESEARCH EXPERIENCE

One-Shot Object Detection without Finetuning *Sept 2019 - Nov 2019*

Computer Vision | Prof. Chi-Keung Tang & Prof. Yu-Wing Tai | HKUST | Paper | Github

- Designed a two-stage finetuning-free one-shot object detection model, surpassed previous SOTA by 12.1% mAP on PASCAL VOC 2007 dataset.
- Designed Matching-FCOS region proposal network, increasing Average Recall from 65.4% to 80.7% upon standard Region Proposal, and Structure-Aware Relation Module, increasing Average Precision by 0.8% upon standard Faster-RCNN head
- Proposed Feature-Similarity Mining by comparing cosine distanced between support and query instances in training stage to select best support image for query training, improved AP_{50} by 5.8%

Deep Video Interpolation and Extrapolation *Feb 2019 - Sept 2019*

Computer Vision | Prof. Chi-Keung Tang & Prof. Yu-Wing Tai | HKUST | Slides

- Interpolated and extrapolated video frames within 1s interval on Cityscape
- Detected and tracked foreground objects from background by using PANet and Siamese-RPN++ and generated foreground and background frames separately using variational autoencoder and HRNet with adversarial loss.

Machine Learning for Building AI Teaching Assistants *June 2018 - Aug 2018*

Natural Language Processing | Prof. Dit-Yan YEUNG | HKUST | Tech Report

- Built sequential models including RNN, LSTM and GRU for detecting duplicate questions, achieved 85.89%. accuracy on Quora Question Pairs Dataset.

PROFESSIONAL EXPERIENCE

Software Internship in MEGVII Video Group Detection Sub-group *Jan 2020 – April. 2020*

Computer Vision | Beijing MEGVII

- Implemented cascade model for anchor-free one-stage object detector by using RoIConv upon FCOS object detector to accurately localized features, achieved 73.6% mean-average-precision (mAP) on private human detection dataset compared to 71.3% mAP of standard FCOS model
- Experimented with feature aggregation in Feature Pyramid Network by fusing different features maps from bottom to up, increased mAP by 1% on human detection task

COMPETITIONS

HackUST in HKUST *Apr 2018*

Entrepreneur | 1st Runners-up of Transportation Group | 95 teams

- Proposed to provide parking lots vacancy consultation and implemented a web demo

The 12th NXP Cup Intelligent Car Racing Competition in South China Region *July 2017*

Robotics | The 3rd Class Award in Balance Car Category | 64 teams

- Implemented PID controllers and filtering on gyroscope and accelerometer for robot automation
- Designed real-time camera algorithms to recognize tracks and find shortest path

EXTRACURRIRULUM

Peer Mentor of HKUST 9th Robot Design Contest

Robotics | HKUST *Sept 2017 - Dec 2017*

- Led and taught a group of new members to design and build robots

Software Developer in HKUST Robotics Team – Intelligent Car Sub Team

Robotics | Prof. Kam Tim WOO | HKUST *Sept 2016 - July 2017*

- Represent HKUST to join Intelligent Car Racing Competition

HONORS & AWARDS

- HKUST Academic Achievement Medal, CGA at least 3.9, top 1% of graduates 2020
- HKSAR Government Scholarship, HKD 80000 per year, ~100 among all university students *2016 - 2020*
- Lee Hysan Foundation Exchange Scholarships, HKD 13000, 11 among all fall 2018 exchange students *2019*
- Kerry Holdings Limited Scholarship, HKD 60000 per year, ~20 among all non-local new UG students *2016 - 2020*
- Dean's List, for students with term grade average above 3.7 *2016 - 2018*

SKILLS

- Programming Language: Python, C++, Java, JavaScript
- Toolkit: PyTorch, TensorFlow, Numpy, OpenCV