SHUQIN XIE

shuqinx@andrew.cmu.edu ◇ +1 (408) 594 8983 ◇ www.linkedin.com/in/shuqinxie

I am looking for a computer vision internship in Summer 2021

EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Master of Science in Computer Vision — *Aug, 2020 - Dec, 2021*

Shanghai Jiao Tong University — Shanghai, China
Bachelor of Engineering in Automation — *Sep, 2014 - Jun, 2019*

PUBLICATIONS

RMPE: Regional Multi-Person Pose Estimation
Hao-Shu Fang, **Shuqin Xie**, Yu-Wing Tai and Cewu Lu
In Proceedings of *International Conference on Computer Vision* (ICCV), 2017

Environment Upgrade Reinforcement Learning for Non-differentiable Multi-stage Pipelines
Shuqin Xie, Zitian Chen, Chao Xu and Cewu Lu
In Proceedings of *Conference on Computer Vision and Pattern Recognition* (CVPR), 2018 (**Spotlight**)

TOPNet: Thinking Outside the Bounding Box
Shuqin Xie, Chao Xu, Shu Liu, Alan Yuille and Jiaya Jia
Technical report, 2019

Post-NMS Training Strategy for Object Detection
Lu Qi*, **Shuqin Xie***, Shu Liu, Jiaya Jia
Technical report, 2019

RESEARCH EXPERIENCE

Uber ATG — Toronto, Canada
Research Intern — *July, 2019 - June, 2020*
- Advisor: Prof. Raquel Urtasun
- Investigated a novel open-set instance segmentation problem. Designed a curriculum to gradually increase difficulties of tasks and substantially improved our models' performance from 1.6 AR to 20 AR.

Computer Vision Group at CUHK — Hong Kong, China
Research Assistant — *March, 2018 - Feb, 2019*
- Advisor: Prof. Jiaya Jia
- Proposed an attention module to enhance existing proposal-based methods' performances under occlusion conditions. Improved Mask R-CNN for 1.5 AP and 1.9 AP on instance segmentation and multi-person pose estimation respectively.
- Invented an algorithm to integrate NMS into training phrases of object detectors by reinterpreting NMS as dynamic clustering process. Achieved 1.9 AP improvement over Faster R-CNN.

Machine Vision and Intelligence Group at SJTU — Shanghai, China
Research Assistant — *Aug, 2016 - Jan, 2018*
- Advisor: Prof. Cewu Lu
- Present a proposal-based framework for multi-person pose estimation, along with several innovative components to improve the robustness of algorithm under inaccurate bounding box detection circumstance. Achieved state-of-the-art performance in the MPII dataset with a Faster R-CNN human detector and a Hourglass human pose estimator.
- Developed a reinforcement learning framework to gradually refine imperfect bounding boxes for better downstream task performance (e.g. instance segmentation and human pose estimation). Designed an algorithm to jointly optimize the RL agent and downstream task solver's parameters. Achieved 1.0 mAP improvement over RMPE baseline.

PROGRAMMING SKILLS

Programming Languages: Python, C/C++, Lua, MATLAB
Professional Tools: PyTorch, Torch, Caffe2, LaTeX