Chong Zhou

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Research Interests

I am broadly interested in computer vision and related problems in machine learning. My research experience is focused on instance segmentation, object detection, and pedestrian detection. Currently, I'm particularly interested in self-supervised learning.

Education

University of California Davis, CA, USA

M.S., Computer Science, 2018 - 2020

GPA: 4.00/4.00
- Advisor: Prof. Yong Jae Lee

Nankai University, Tianjin, China

B.E., Software Engineering, 2014 - 2018

GPA: Overall 3.66/4.00; Major 3.72/4.00
- Advisor: Prof. Ming-ming Cheng

Publications

[1] Penghao Zhou, **Chong Zhou**, Pai Peng, Junlong Du, Xing Sun, Xiaowei Guo, and Feiyue Huang. NON-NMS: Improving pedestrian detection by nearby objects hallucination. In *Proceedings of the 28th ACM International Conference on Multimedia (**ACM Multimedia**)*, 2020.

[2] Daniel Bolya*, **Chong Zhou***, Fanyi Xiao, and Yong Jae Lee (* equal contribution). YOLACT++: Better real-time instance segmentation. *IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**)*, 2020.

[3] Daniel Bolya, **Chong Zhou**, Fanyi Xiao, and Yong Jae Lee. YOLACT: Real-time instance segmentation. In *The IEEE International Conference on Computer Vision (**ICCV**)*, October 2019. (**Oral presentation**).

Awards

- Most Innovative Award, COCO Object Detection Challenge, 2019
- Graduate Research Assistantship, UC Davis, 2019
- National University Student Innovation Program Grant ($3100), 2016
- 'Gongneng' Scholarship (15%), NKU, 2015 and 2016

Experience

Tencent Youtu Lab, Shanghai, China

Research Intern   **Apr 2020 - Present**

- Scenes in the pedestrian detection task are more crowded than those in generic object detection. However, traditional NMS does not consider pedestrian density. Thus, we improve the NMS algorithm by making it aware of the nearby pedestrians, which significantly boosts the detection performance. [ACM MM 2020]

University of California Davis, CA, USA

Graduate Student Researcher **Dec 2018 - Mar 2020**

- Propose a simple, fully-convolutional model for *real-time* instance segmentation that achieves 29.8 mAP on MS COCO at 33 fps evaluated on a single Titan XP, which is significantly faster than any previous competitive approach. [ICCV 2019]
- Boost the performance of our real-time instance segmenter to 34.1 mAP on MS COCO while keeping it running at 33 fps. [TPAMI 2020]

Nankai University, Tianjin, China

Undergraduate Senior Thesis **Sept 2017 - June 2018**

- Implementation and analysis of a semi-automatic image segmentation annotation system based on GrabCut and closed-form matting algorithms.

Undergraduate Student Researcher **Sept 2016 - June 2017**

- Develop an intelligent system that converts hand drawings and sketches into synthesized realistic photos.

Skills

- Programming: Python, C/C++, Java
- Misc: PyTorch, Linux, LaTeX