Wenhai Wang

Email: wangwenhai362@163.com, **Homepage:** https://whai362.github.io

Education

Nanjing University, Nanjing, China Sep. 2016 - Present

Ph.D. candidate in Computer Science and Technology, *Supervised by Prof. Tong Lu*.

Nanjing University of Science and Technology, Nanjing, China Sep. 2012 - Jun. 2016

B.E. in Software Engineering.

Research Interests

- Optical Character Recognition [2, 4]
- Deep Neural Networks Exploration [1, 3]
- Object Detection / Instance Segmentation [5]

Experience

Github: https://github.com/whai362

The University of Hong Kong, Hongkong, China Oct. 2019 - Mar. 2020

Research Assistant, *Supervised by Prof. Ping Luo*

- **One-stage Instance Segmentation**. Proposed an anchor-box free and single shot instance segmentation method, termed PolarMask, which formulates the instance segmentation problem as instance center classification and dense distance regression in a polar coordinate. This work *PolarMask: Single Shot Instance Segmentation with Polar Representation* is accepted by CVPR 2020.

SenseTime, Beijing, China Aug. 2019 - Mar. 2020

Research Intern, *Supervised by Xuebo Liu and Ding Liang*

- **Optical Character Recognition**. Did research on text detection and recognition in natural scenes, and tried to 1) solve the ambiguity in text detection and 2) design a real-time algorithm for arbitrary-shaped text detection and recognition. Papers on both topics are in preparation.

Momenta, Beijing, China Jun. 2018 - Dec. 2018

Research Intern, *Supervised by Dr. Xiang Li*

- **Deep Neural Networks Exploration**. Did research on the receptive fields of CNNs, and designed a dynamic selection mechanism in CNNs that allows each neuron to adaptively adjust its receptive field. This work *Selective Kernel Networks* is accepted by CVPR 2019.
- **Object Detection**. Led a team to take part in Autonomous Driving Perception Task in AI Challenger 2018. Re-implemented and improved Cascade R-CNN to detect objections in autonomous driving scenarios. Our team finally secured the 2nd place in the task.

Contests

- ICDAR2019 Robust Reading Challenge on Arbitrary-Shaped Text, Task1, **1st Place** May 2019
- ICDAR2019 Robust Reading Challenge on Large-scale Street View Text with Partial Labeling, Task1, **2nd Place** Jun. 2019
- AI Challenger 2018 Autonomous Driving Perception Task, **2nd Place** Dec. 2018
- ACM-ICPC Asia Regional Contest, **Silver Medal** Nov. 2015

Honors and Awards

- National Scholarship Oct. 2019
- Outstanding Graduate Student Jun. 2016

Publications

Google Scholar: https://scholar.google.com/citations?user=WMOOglcAAAAJ&hl=zh-CN

Top-Tier Computer Vision Conference Papers

[1] **W. Wang**, X. Li, T. Lu, and J. Yang, *Mixed Link Networks*, in International Joint Conference on Artificial Intelligence (IJCAI), Stockholm, Sweden, 2018.

[2] **W. Wang**, E. Xie, X. Li, W. Hou, T. Lu, G. Yu, and S. Shao, *Shape Robust Text Detection with Progressive Scale Expansion Network*. in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, CA, USA, 2019.

[3] X. Li, **W. Wang**, X. Hu, and J. Yang, *Selective Kernel Networks*, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, CA, USA, 2019.

[4] **W. Wang**, E. Xie, X. Song, Y. Zang, W. Wang, T. Lu, ... and C. Shen, *Efficient and Accurate Arbitrary-Shaped Text Detection with Pixel Aggregation Network*, in IEEE International Conference on Computer Vision (ICCV), Seoul, Korea, 2019.

[5] E. Xie, P. Sun, X. Song, **W. Wang**, C. Shen, P. Luo, *PolarMask: Single Shot Instance Segmentation with Polar Representation*, in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Seattle, Washington, USA, 2020.

Academic Service

Journal Reviewer

- Reviewer of IEEE Transactions on Multimedia (T-MM)

Conference Reviewer

- Reviewer of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020