

# Ruihai Wu

Room 428, Building No.28, Peking University, Beijing, P.R. China 100871

Tel: (+86) 188-1105-8986 Email: wuruihai@pku.edu.cn

Homepage: <https://warshallrho.github.io/>

## EDUCATION BACKGROUND

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### Peking University

#### Bachelor of Science, Computer Science and Technology

Expected graduation, July 2020

- GPA: 3.59/4.0 (Academic Excellence Award)

- Related Courses:

Computer Vision and Deep Learning(top10), Data Structure and Algorithms(top20), Practice of Software Engineering(top1)

## RESEARCH EXPERIENCE

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### Undergraduate member, Machine Intelligence (MI) Lab, Peking University

2018.3 - present

- President's Undergraduate Research Fellowship

- Visual Relation Detection, Supervisor: Prof. Yadong Mu

- To describe all interacting objects in an image using subject-predicate-object triplets (for example, person play guitar).
- Devised the first completely end-to-end neural network to do the task.
- Using graph-based optimization to extract proposals (in progress).
- Wrote code about the neural network with PyTorch, and code about data processing and evaluating benchmark.
- Part of the paper draft is in preparation.

### Research Intern, Video Group in Megvii (Face++) Research

2018.7 - 2018.9

- Human Attribute Recognition, Mentor: Dr. Chi Zhang, Lead Researcher of Video Group

- To recognize human attributes (hat, bicycle, glasses, etc.) in videos.
- Devised a model to synchronously recognize twelve human attributes.
- Compressed the model size by 90%, using knowledge distillation.
- Used attention method, multi-layer features and segmentation results to extract human features more profoundly.

### Research Intern, Microsoft Research Lab - Asia (MSRA)

2019.3.21 -

- Research projects about Machine Learning

## OPEN SOURCE PROJECTS

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### TensorLayer 2.0 (under development)

- <https://github.com/zsdonghao/tensorlayer2> (TensorLayer 1.0: <https://github.com/tensorlayer/tensorlayer>, 4764 Stars)
- TensorFlow-based deep learning library
- One of the four collaborators

## HONORS AND AWARDS

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- May Fourth (decoration day) Scholarship (15 / 330), Peking University 2018
- Academic Excellence Award, Peking University 2018
- Excellent Coach Award in Olympiad in Informatics Camp, Olympic Committee of Jiangsu Province 2016, 2017, 2018
- Huaying Elite Scholarship, Huaying Education Foundation, Changzhou City 2016
- Bronze medal in National Olympiad in Informatics (NOI), China Computer Federation 2015
- Admitted as a member in Jiangsu Province Team (one of the top-ranking teams in China with only 15 members) in National Olympiad in Informatics (NOI), Olympic Committee of Jiangsu Province 2015
- Bronze medal in Asia-Pacific Informatics Olympiad (APIO), China Computer Federation 2015
- Bronze medal in National Winter Camp (WC), China Computer Federation 2015
- First prize (three times) in National Olympiad in Informatics in Provinces (NOIP) (top 0.1%), China Computer Federation 2013, 2014, 2015

## PROFESSIONAL SKILLS

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- Programming Languages: Python(skilled), C/C++(skilled), Java(skilled), MATLAB
- Deep Learning Framework: PyTorch, Tensorflow
- Language: GRE 155(Verbal Reasoning) + 170(Quantitative Reasoning) + 4.0(Analytical Writing)

## OTHER EXPERIENCES

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- Participated in the writing of two Olympiad course books in Jiangsu Province: *Advanced Data Structure* (the only special acknowledgement) and *Mathematics in Olympiad in Informatics* (acknowledgement).
- Served as the coach (invited by the Olympic Committee of Jiangsu Province, and taught the best class) in the official winter/summer camp of Olympiad in Informatics in July, 2016, January, 2017 and February, 2018.