

JUNBIN GAO

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EDUCATION

Huazhong University of Science and Technology

August 2020 - Exp. July 2023

M.S. Student in school of artificial intelligence and automation (AIA)

- **Supervisor:** Prof. Zhigang Zeng

- **Research Interests:** Computer Vision and deep learning, especially object detection and 3D scene understanding.

- **Fellowship:** First Prize Scholarship of HUST

Northeastern University

August 2016 - July 2020

Bachelor of Engineering, Measurement and Control Technology and Instrumentation

- **GPA:** 3.7/5.0, top 5%.

- **Fellowship:** National Scholarship, China Telecom Scholarship.

PUBLICATIONS

1. Xiaotian Chen, Yuwang Wang, **Junbin Gao**, Wenjun Zeng, Shenglong Zhou, Xuejin Chen. StructNet: Structural Representation Learning for Domain Generalization. Annual Conference on Neural Information Processing System (Submission in NeurIPS, 2021)

RESEARCH EXPERIENCE

Tsinghua University

Jul. 2021 - up to now

Visiting Student of Tsinghua Laboratory of Brain and Intelligence

Beijing, China

Microsoft Research Asia (MSRA)

Jan. 2021 - Jun. 2021

Intern of Intelligent Multimedia Group

Beijing, China

I worked on object detection tasks and we proposed StructNet (consists of the SEM module and the residual block of Resnet) as the backbone to explicitly extract structure feature in multiple downstream tasks (classification, detection and segmentation). Our StructNet backbone leads to significant improvement of the generalization on all the tasks, and achieves the SOTA results.

Mech-Mind Robotics Technologies Ltd

Dec. 2019 - Mar. 2020

Intern of Deep Learning Group

Beijing, China

I worked on completing the development of deep camera SDK, remoting compilation, etc. We explored some detection networks to complete the analysis and recognition of object materials.

SELECTED PROJECTS

• Rocket Army Artificial Intelligence Challenge (Top 5%)

Sep. 2020 - Nov. 2020

We worked on designing algorithm to detect object from LIDAR images. Based on the object detection algorithm Yolov3, the backbone part of the convolutional neural network model suitable for the competition dataset is redesigned. we achieved 50.9 mAP and 60FPS while testing.

• TI Cup Electronic Design Competition (First Prize)

Apr. 2019 - Sep. 2019

We designed a vision based UAV, which can realize high-precision flight control and complete the automatic detection of power cables, including the functions of finding foreign objects and giving an alarm, returning the status of foreign objects and so on.

HONORS & AWARDS

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| • Second Prize of Huawei Cup Mathematical Modeling Contest | 2020 |
| • First Prize Scholarship of HUST | 2020 |
| • Second Prize of Freshman Scholarship of HUST | 2019 |
| • China Telecom Scholarship | 2019 |
| • First Prize of TI Cup Electronic Design Competition | 2019 |
| • Silver Prize of Challenge Cup Competition | 2018 |
| • Second Prize of Mathematical Contest in Modeling | 2018 |
| • National Scholarship (The highest scholarship for Bachelor students in China) | 2017 |