

LIJIE LIU

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EDUCATION

Tsinghua University, Beijing, China Master in Control Science and Engineering Department of Automation	<i>Sept. 2017 - Jul. 2020</i> Ranking 9/117 GPA 3.77/4.0
Tsinghua University, Beijing, China Bachelor of Engineering Department of Automation	<i>Aug. 2013 - Jul. 2017</i> Ranking 35/145 GPA 88/100

ACADEMIC PAPER

Lijie Liu, Jiwen Lu, Chunjing Xu, Qi Tian, Jie Zhou, Deep Fitting Degree Scoring Network for Monocular 3D Object Detection, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019

Lijie Liu, Jiwen Lu, Jie Zhou, Adversarial Transfer Networks for Visual Tracking, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2018

Lijie Liu, Chufan Wu, Jiwen Lu, Lingxi Xie, Jie Zhou, Qi Tian, Reinforced Axial Refinement Network for Monocular 3D Object Detection, in peer review

WORK EXPERIENCE

Huawei Noah Ark's Lab, Beijing, China *Oct. 2018 - Jun. 2019*
Internship, Supervisor: Lingxi Xie, Senior Researcher, and Qi Tian, Chief Scientist

Tsinghua University, Beijing, China *Sept. 2016 - Present*
Research Assistant, Supervisor: Jiwen Lu, Associate Professor and Jie Zhou, Professor

HONORS AND AWARDS

2018	Best Oral Report , 2018 Asian Universities Alliance Postgraduate Academic Forum
2017	Excellent Graduated Thesis , Tsinghua University
2015,2016	HAGE Scholarship , Department of Automation, Tsinghua University
2014	Academic Excellence Award , Tsinghua University
2014	Hengda Scholarship , Tsinghua University
2014	Third Prize , National Physics Contest of College Students

RESEARCH PROJECTS

ATNet *Sept. 2016 - Jan. 2018*

- Achievement: This work was awarded Excellent Graduated Thesis of Tsinghua University. The first-author paper was accepted by IROS.
- Responsibilities: Designed a GAN-based architecture to make better use of limited training data and reduce the negative transfer problem in visual tracking. Conducted all the experiments in both Matlab+MatConvNet and Python+PyTorch, and achieved the state-of-the-art tracking performance on the OTB dataset.

FQNet

Feb. 2018 - Nov. 2018

- Achievement: The first-author paper was accepted by CVPR. The proposed method provides a new approach to embed appearance information, solving the shortcomings of existing tight-constraints-based algorithms.
- Responsibilities: Proposed to introduce fitting degree to assist cross-domain inference. Designed a sampling-based deep discriminative method. Conducted all the experiments in Python and PyTorch, and significantly improved the positioning accuracy.

RARNet

Oct. 2018 - Jun. 2019

- Achievement: The first-author paper is in peer review. It is the first work that applies deep reinforcement learning to refine 3D parameters in an iterative manner.
- Responsibilities: Proposed an iterative refinement algorithm based on reinforced axial refinement network. Conducted all the experiments in Python and PyTorch, and developed a plug-and-play iterative refinement module with a very small time cost.

A3D

Jun. 2019 - Present

- Achievement: The first-author paper is in preparation. It is the first 3D-Anchors-based monocular 3D object detection framework.
- Responsibilities: Propose a two-stage framework for placing 3D anchors in the 3D space efficiently. Conducted all the experiments in Python and PyTorch, and obtained more accurate detection results.

OTHER PROJECTS

with Gaussian Robotics Company

Aug. 2019 - Present

- Working on ground segmentation algorithms and LiDAR-based driving area recognition algorithms for the cleaning robots.

with undergraduates

Oct. 2018 - Present

- LiDAR style transfer: Proposed PointNet-based GAN for scene point clouds to transfer Pseudo-LiDAR to real LiDAR.
- Interactive Question Answering: Proposed neural-symbolic IQA, which uses symbolic programming to decide interactive actions for robot navigation tasks.

SKILLS

Language

- Chinese (Native speaker), English (TOEFL 105 S(25))

Programming

- Experienced in Python, C++, Matlab, and Linux commands.
- Proficient in PyTorch, Tensorflow, MatConvNet and OpenCV.
- Mastery of 3D Deep Learning, Adversarial Learning, and Reinforcement Learning.