

# YUNFEI LI

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## EDUCATION

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**Institute for Interdisciplinary Information Sciences, Tsinghua University** Sep 2020 - Present  
PhD Student in Computer Science and Technology Advisor: Yi Wu  
**Department of Electronic Engineering, Tsinghua University** Aug 2016 - Jul 2020  
Bachelor of Engineering GPA: 3.89/4.0, Ranking: 4/287  
**English Tests**  
TOEFL: 102 (R28, L27, S23, W24) GRE: 331

## RESEARCH EXPERIENCES

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**Institute for Interdisciplinary Information Science, Tsinghua University** Sep 2019 - Present  
**Advisor: Assistant Prof. Yi Wu, IIS, Tsinghua University**  
**Research field: Reinforcement learning, Robotics**  
Developing generalizable RL agents towards complex robotic manipulation tasks. One paper on solving compositional tasks via task reduction is accepted to ICLR 2021. One paper on design and construct bridges without blueprints accepted to IROS 2021.

**Summer Internship, CSAIL, Massachusetts Institute of Technology** Jul 2019 - Sep 2019  
**Advisor: Associate Prof. Wojciech Matusik, Dept. of EECS, CSAIL, MIT**  
**Research field: Physical Simulation**  
Building a differentiable simulation environment for benchmarking different learning and optimization algorithms, including variants of reinforcement learning and gradient descent methods. Propose a hybrid learning algorithm that incorporates gradients from differentiable simulator into model-free reinforcement learning.

**3D Image Lab, Dept. of EE, Tsinghua University** Jul 2018 - Jul 2019  
**Advisor: Associate Prof. Huimin Ma, Dept. of EE, Director of 3D Image Lab, Vice Chair & Secretary-General of China Society of Image and Graphics**  
**Research field: Reinforcement Learning**  
Learning from expert demonstrations. Proposed a theoretically motivated method of introducing imperfect demonstrations without reward signals to model-free RL.

**Students Research Training, Inst. of Microelectronics, Tsinghua University** Jul 2017 - Jul 2018  
**Advisor: Associate Prof. Xiang Xie, Inst. of Microelectronics; Associate Prof. Guolin Li, Dept. of EE**  
**Research field: Biomedical Image Processing**  
Lung nodule segmentation from CT images. One paper *Lung Nodule Segmentation Using Pleural Wall Shape* accepted to IEEE BioCAS 2018 conference.

## PUBLICATIONS

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**Yunfei Li**, Tao Kong, Lei Li, Yifeng Li, Yi Wu, "Learning to Design and Construct Bridge without Blueprint", CoRR abs/2108.02439 (2021). Accepted to IROS 2021.

**Yunfei Li**, Yilin Wu, Huazhe Xu, Xiaolong Wang, Yi Wu, "Solving Compositional Reinforcement Learning Problems via Task Reduction", ICLR 2021. [project]

Xiaoqin Zhang, **Yunfei Li**, Huimin Ma and Xiong Luo, "Pretrain Soft Q-learning with Imperfect Demonstrations," CoRR abs/1905.03501 (2019).

**Yunfei Li**, Xiang Xie, Guolin Li and Zhihua Wang, "Lung Nodule Segmentation Using Pleural Wall Shape," BioCAS 2018: 1-4.

## HONORS AND AWARDS

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Outstanding Graduate of Tsinghua University	June 2020
Member of Spark Innovative Talent Cultivation Program	May 2018
National Scholarship for Outstanding Academic Performance	Oct 2017
Freshman Scholarship (Grade 1)	Oct 2016

## TEACHING

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TA of Deep Learning	Spring 2021
TA of Introduction to Artificial Intelligence (Top 5% outstanding TAs)	Autumn 2020

## TECHNICAL STRENGTHS

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<b>Advanced</b>	Python, TensorFlow, PyTorch
<b>Intermediate</b>	Git, LaTeX, Linux, MATLAB
<b>Basic</b>	C, C++