PEIDE HUANG

+1 (650) 505 8033 ⋄ peideh@andrew.cmu.edu ⋄ https://peidehuang.github.io/

EDUCATION

Carnegie Mellon University September 2020 - Present
Ph.D. in Mechanical Engineering *Pittsburgh, PA, US*
Academic advisors: Prof. Ding Zhao (SafeAI Lab), Prof. Fei Fang (AI and Social Good Lab)

Stanford University September 2018 - April 2020
M.S. in Mechanical Engineering (Robotics Track), GPA: 3.9/4.0 *Stanford, CA, US*

Nanyang Technological University, Singapore September 2014 - May 2018
B.E. in Aerospace Engineering with Highest Distinction, GPA: 4.9/5.0 *Singapore*

CURRENT RESEARCH

Peide Huang's research goal is to understand the interaction between the reinforcement learning agent and the tasks, with the objective to enable robust, safe and explainable decision-making. To achieve this goal, he leverages curriculum learning, representation learning, multi-agent system and game theory. He also tackles real-world applications in robotics and autonomous driving.

SELECTED PUBLICATIONS

1. **Curriculum Reinforcement Learning using Optimal Transport via Gradual Domain Adaptation**
   Peide Huang, Mengdi Xu, Jiacheng Zhu, Laixi Shi, Fei Fang, Ding Zhao.
   The 36th Conference on Neural Information Processing Systems (NeurIPS 2022)

2. **Robust Reinforcement Learning as a Stackelberg Game via Adaptively-Regularized Adversarial Training**
   Peide Huang, Mengdi Xu, Fei Fang, Ding Zhao.
   The 31st International Joint Conference on Artificial Intelligence (IJCAI 2022).

3. **Accelerated Policy Evaluation: Learning Adversarial Environments with Adaptive Importance Sampling**
   Mengdi Xu, **Peide Huang**, Fengpei Li, Jiacheng Zhu, Xuewei Qi, Kentaro Oguchi, Zhiyuan Huang, Henry Lam, and Ding Zhao.
   IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2022).

4. **Group Distributionally Robust Reinforcement Learning**
   Mengdi Xu, **Peide Huang**, Visak Kumar, Jielin Qiu, Chao Fang, Kuan-Hui Lee, Xuewei Qi, Henry Lam, Bo Li, Ding Zhao.
   Under review. Abridged in ICRA 2022 the Fresh Perspectives on the Future of Autonomous Driving Workshop.

5. **Latent Goal Allocation for Multi-Agent Goal-Conditioned Self-Supervised Imitation Learning**
   Peide Huang[*], Rui Chen[*], and Laixi Shi[*].
   NeurIPS 2021 Bayesian Deep Learning Workshop.

PROFESSIONAL SERVICES

Reviewer NeurIPS 2022, AISTATS 2023

SELECTED PRESENTATIONS

· Bayesian Deep Learning Workshop, NeurIPS 2021

· Workshop on Security and Safety in Machine Learning Systems, ICLR 2021

INTERNSHIP EXPERIENCE

Flexiv Robotics Ltd. June 2019 - September 2019
System Engineer *California, US*

· Established a new experimental software and hardware framework to expedite the prototyping and testing procedure of products in development. Developed a multi-threaded inter-process communication software library to achieve more robust and faster communication between middleware modules.

· Coordinated with senior engineers and managers to ensure smooth integration of the new framework into the R&D department. Constructed a standard operating procedure for the experimental setup.

Agency for Science, Technology and Research, Singapore January 2017 - June 2017
Research Assistant *Singapore*

· Designed and develop a variable footprint, Omni-directional mobile robotic platform that can change the morphology for increased stability or compactness in response to the task requirements.

· Communicated with the supervisor and managed the project timeline, budgeting, and deliverables.

AWARDS AND HONORS

· NeurIPS 2022 Scholar Award

· NeurIPS 2022 Top Reviewer

· CMU 2022 Graduate Student Assembly/Provost Conference Funds

· ICLR 2021 Travel Award

· NTU 2016 President Research Scholar with Distinction

TEACHING AND LEADERSHIP EXPERIENCE

CMU Modern Control Theory, Fall 2021	Head of teaching assistants
CMU Linear Control Systems, Fall 2020	Head of teaching assistants
NTU Introduction to Computing, Spring 2016	Peer tutor
NTU Robotics Club	Co-founder and Vice President

SELECTED COURSES

Data Science and Machine Learning, Probability and Mathematical Statistics, Advanced Deep Learning, Decision Making Under Uncertainty, Probabilistic Graphical Models, Convex Optimization, Robotic Autonomy, Deep Reinforcement Learning, Advanced ML and Game Theory.

SKILLS

Software	Python, MATLAB, Simulink
Hardware design	Altium, SolidWorks
Language	English, Mandarin, German (Goethe Institut A2)