Yiwen Qiu

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EDUCATION

Department of Automation, Tsinghua University, Beijing, China Aug 2019 - Jul 2023(Expected)

- Major GPA: 3.82/4.0 Ranking: Top 10% in 160+ students
- **Core Courses:**

  Big Data and Machine Intelligence / Foundation of Artificial Intelligence / Automatic Control Theory / Data Structures / C++Program Design and Training / Computer Languages and Programming / Computer Principles and Applications / Signals and System Analysis / Calculus / Linear Algebra
- **Honors and Awards:**

  Person of the Year in Department of Automation(10 in 500+) 2021.12

  SK Scholarship (Undergraduate student), for overall excellence (30/ 450) 2021.10

  Excellent Youth League member, Tsinghua University (15/105) 2021.10

  Weichai Scholarship, for academic excellence and excellent social work 2020.10

PROJECT EXPERIENCES

Out-of-Dynamics(OOD) Imitation Learning from Transferable Demonstrations | Research Assistant March 2022 - now

*Advisor: **Mingsheng Long**, Associate Professor, Machine Learning Group, School of Software, Tsinghua University*

- Develop a tranferability measurement to down-weight non-transferable demonstrations for OOD imitation learning which enables robot to learn form data collected in different dynamics.
- Develop a novel sequence-based contrastive clustering algorithm to tackle the multimodal distribution in demonstrations to enhance the above adversarial training algorithm, and our final result outperforms all baselines.

Dynamics-Aware Reinforcement Learning | Research Assistant Feb 2022 - April 2022

*Advisor: **Xianyuan Zhan**,* Institute for AI Industry Research (AIR), Tsinghua University, China

- Propose the H2O framework to provide an affirmative answer to the question about how to integrate limited real data in offline RL and unrestricted exploration through imperfect simulators.
- By adaptively penalizes the Q-function learning on simulated state-action pairs with large dynamics gaps (through adversarial training), our result beats baselines in both simulation and real-world settings.

Universal Domain Adaptation with Meta-learning | Tsinghua University | Research Assistant Aug 2021-Dec 2022

*Advisor: **Mingsheng Long**, Associate Professor, Machine Learning Group, School of Software, Tsinghua University*

- Aimed to eliminate the **category** gap on source and target domains in Domain Adaptation tasks by identifying outlier samples without the need for prior knowledge.
- Conducted experiments with PyTorch and achieved improved performance on Office31, OfficeHome settings. (1~2% in accuracy, 8% in h-score) by utilizing **a meta-learning method,** intended to consider harder circumstances like **long-tail distribution** in real-world settings.

Fine-tuning for Worst-Case Generalization| Tsinghua University | Research Assistant Nov 2021-Jan 2022

A*dvisor: **Mingsheng Long**, Associate Professor, Machine Learning Group, School of Software, Tsinghua University*

- To avoid learning models that rely on spurious correlations, suffering high loss on specific groups of data (i.e. worst-case data) in fine-tuning problems.
- Applied **D**istributionally **R**obust **O**ptimization method by manually making the model focus more on **hard-case sample**s to guarantee a good performance **on the possibly worst target distribution.**
- Implement such method on CV and NLP downstream tasks to demonstrate the DRO-method's universality.

SKILLS

Solid programming, coding and system analysis skills

- Programming Languages: C/C++, Matab, Python. Quick to learn new languages and APIs.

Standard English Tests

- GRE: **332** | Verbal -162 Quantitative -170 Analytical Writing - 4.0
- TOEFL:**110** | Reading - 29 Listening - 30 Speaking - 23 Writing - 28