Qisen Yang

Email: yangqs19@mails.tsinghua.edu.cn

Homepage: https://qisen-yang.netlify.app/

Education

Doctoral Candidate in Automation, Tsinghua University (2019-present)

- Research Interests: Deep Learning, Reinforcement Learning, Large Language Models
- Advisors: Prof. Gao Huang & Prof. Shiji Song, Department of Automation

Bachelor of Engineering in Precision Instrument, Tsinghua University (2015-2019)

Bachelor of Science in Psychology, Tsinghua University (2016-2019)

Research Experience

Efficient Knowledge Distillation (NeurIPS Spotlight, 2022)

- Discovered a counter-intuitive phenomenon where non-converged models performed better in distillation.
- Established a connection between these observations and Information Bottleneck theory.

Boosting Offline Reinforcement Learning with Action Preference Query (ICML, 2023)

- Presented a general training scheme for practical offline RL that brings higher returns than online fine-tuning but dispenses with the risk of real-world interactions.

Adaptive Offline Reinforcement Learning with Expert Guidance (TNNLS, 2023)

- Investigated the balance between policy constraints and improvement in offline reinforcement learning.
- Proposed a plug-in approach that determines the relative importance of policy constraints for every sample in an adaptive and end-to-end way.
- Achieved substantial performance improvements with limited expert demonstrations.

Leveraging Reward Consistency for Interpretable Feature Discovery (TSMC-A, 2023)

- Focused on post-hoc explanations in vision-based reinforcement learning.
- Analyzed limitations of conventional action matching and introduced reward matching in RL interpretations.
- Modeled the RL interpretation problem as a novel reinforcement learning task.

State-Adaptive Balances for Offline-to-Online Reinforcement Learning (NeurIPS Spotlight, 2023)

- Designed a framework for training a family of policies offline and adaptive selection in the online phase.
- Empowered offline-to-online algorithms to determine state-adaptive improvement-constraint balances.

LLM Agents for Psychology: A Study on Gamified Assessments (Arxiv preprint)

- Proposed PsychoGAT (Psychological Game AgenTs) to achieve a generic gamification of psychological assessment by incorporating LLM agents into designated roles and carefully managing their interactions.
- PsychoGAT can transform any standardized scales into personalized and engaging interactive fiction games.

Leadership and Activities

Counselor for Undergraduate Students at Tsinghua University (2019-2021)

- Managed student adaptation, personal development, conflict resolution, and team organization.

Consultant at Tsinghua University Learning Development Center (2021-present)

- Provided interdisciplinary guidance to students on academic, personal growth, and mental health challenges.

Honors and Awards

- National Scholarship, Tsinghua University, 2017
- Outstanding Undergraduate Thesis Award, Tsinghua University, 2019
- Excellent Student Leader, Tsinghua University, 2020
- National Scholarship, Tsinghua University, 2023