

Yuxing Wang (王昱兴)

E-mail: wangyuxing@sz.tsinghua.edu.cn Website: <https://yuxing-wang-thu.github.io/>



RESEARCH INTERESTS

Main topics: Robot Co-design, Robot Learning, Reinforcement Learning, Evolutionary Computation, Embodied AI.

I am particularly fascinated with building intelligent robotic systems that dynamically adapt their morphologies and behaviors. The related topics I have touched upon to evolutionary reinforcement learning for robot control optimization and brain-body co-design for modular robots. I worked on the application of Game AI, rigid robots, and a bit of soft robots.

EDUCATION&WORK

TSINGHUA UNIVERSITY

2023.07-Now

- Research Assistant @ Tsinghua SIGS
- Research Associate @ Research Institute of Tsinghua University in Shenzhen

TSINGHUA UNIVERSITY

2020.08-2023.06

- M.Eng. in Electronic and Information Engineering
- Advised by [Prof. Xueqian Wang](#)
- Cumulative GPA: **3.89/4.00**, Rank: **2/45**

SOUTHWEST MINZU UNIVERSITY

2016.09-2020.06

- B.Eng. in Communication Engineering with Highest Honors
- Cumulative GPA: **3.86/4.00**, Rank: **1/145**

PUBLICATION

- **Y Wang**, S Wu, T Zhang, Y Chang, H Fu, Q Fu, X Wang, PreCo: Enhancing Generalization in Co-Design of Modular Soft Robots via Brain-Body Pre-Training, *Oral Presentation, Top 6.6%, Conference on Robot Learning 2023*, 2023.11
- **Y Wang**, S Wu, H Fu, Q Fu, T Zhang, Y Chang, X Wang, Curriculum-based Co-design of Morphology and Control of Voxel-based Soft Robots, *International Conference on Learning Representations 2023*, **H5-index=303**, 2023.01
- T Zhang, Z Lin, **Y Wang**, D Ye, Q Fu, X Wang, B Liang, X Li, Dynamics-Adaptive Continual Reinforcement Learning via Progressive Contextualization, *IEEE Transactions on Neural Networks and Learning Systems*, **JCR Q1, IF=14.255**, 2022.08
- **Y Wang**, T Zhang, Y Chang, B Liang, X Wang, B Yuan, A Surrogate-Assisted Controller for Expensive Evolutionary Reinforcement Learning, *Information Sciences*, **JCR Q1, IF=8.233**, 2021.12
- **Y Wang**, B Yuan, From Big Data Based Price Discrimination to Privacy Leakage: Ethical Analysis and Reflections on Privacy Issues from the Perspective of Hardware and Software, *Science Economy Society (Chinese)*, 2021.10
- **Y Wang**, Y Jiang, A Weighted Minimum Distance Classifier Based on Relative Offset, *IEEE 4th International Conference on Cloud Computing and Big Data Analysis*, 2019.04

RESEARCH EXPERIENCE

2022.05-2023.04 *Research Intern: Quality-Similarity Diversity Optimization for Generating User-Preferred Game AI*

Tencent AI Platform Department

Funded by Tencent Rhino-Bird Research Elite Program

Advised by [Shuang Wu](#) and [Haobo Fu](#)

- Built a universal tool for quality-similarity diversity optimization, capable of generating task-specific diversity for Game AI using a set of user-specified behavior descriptors; Applied this tool to a variety of games such as Atari 2600 and "Auto Chess".

2020.01-2021.12 *Project: Human versus Machine Intelligence*

Tsinghua University

Funded by Natural Science Foundation of China

- Constructed distributed Deep Q Networks (DQNs) and Evolutionary Strategies (ES) for training RL agents; Established the overall training framework; Expert-level players were defeated by our proposed agent model.

2018.08-2019.12 *Project: A Wearable Hand Rehabilitation Robot*

Southwest Minzu University

Funded by National Undergraduate Training Program of Innovation & Entrepreneurship

- Built a wearable hand rehabilitation robot to assist patients in performing rehabilitation exercises, such as finger flexion and extension; Fabricated the robot via 3D printing; Debugged the circuit; Established a web server for collecting data.

2017.06-2018.06 Competition: International Underwater Robot Competition, 2D Simulation League

Southwest Minzu University-Peking University Joint Underwater Robot Lab

- Developed control strategies for 2D simulated fishes using C#; Lead the group to win First Prize in IURC 2017, 2018.

ACADEMIC SERVICE

Membership: IEEE Member

Reviewer (JOURNAL): TNNLS, INFORMATION SCIENCES, IEEE ACCESS

Reviewer (CONFERENCE): NIPS 2023, ICLR 2024, ICML 2024, RSS 2024

AWARDS AND SCHOLARSHIPS

- National Scholarship 2017-2019
- First Prize, International Underwater Robot Competition Jul. 2017
- Honorable Mention, Mathematical Contest in Modeling Apr. 2018
- First Prize in Central and Southwestern China Division, “TI Cup” National Undergraduate IOT Design Contest Aug. 2018
- Bronze Award, National College Student Curricular Academic Science and Technology Works Competition Mar. 2019
- Outstanding Graduate of Sichuan Province Apr. 2020
- 《PEOPLE’S DAILY》 Representative List of National Scholarship Winners for Undergraduate Students Apr. 2020
- Tencent Rhino-Bird Research Elite Program May. 2022

ACTIVITIES / SKILLS

- *Activities:* Teaching assistant of “Data Mining” and “Ethics of Artificial Intelligence” (THU), Fall 2021.
- *Skills:* Python, Torch, TensorFlow, Latex, Linux, C++ and MS Office Suite; Teacher Qualification Certificate.
- *Interests:* Table tennis, voluntary work and bamboo flute.