Yen-Jen Wang

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Education

- **Institute for Interdisciplinary Information Sciences (IIIS), Tsinghua University**, Beijing, China
  - *Master of Science*   *August 2021 - June 2024 (expected)*
  - *Major. in Computer Science*   *GPA:3.952 / 4.0*
- **Department of Computer Science and Information Engineering (CSIE), National Taiwan University**, Taipei, Taiwan
  - *Bachelor of Science*   *September 2017 – January 2021*
  - *Major. in Computer Science and Information Engineering*   *GPA: 3.83 / 4.3*
  - ***Guaranteed admission** due to the Olympiad in Informatics in 2015 (as a high school freshman).*

Selected Awards and Honors

- **5th Place,** International Collegiate Programming Contest **(ICPC) WorldFinals**, Porto, Portugal   *April 2019*
  - *From among 135 teams of three chosen from a field of **52,709 contestants** from **3,233 universities** in **110 countries on six continents** (Source: ICPC Official Website).*
- **Silver Medal,** International Olympiad in Informatics (**IOI**), Tehran, Iran   *July 2017*
- **Grand Prize Winner**, International Genetically Engineered Machine (**iGEM**), Boston, MA, USA   *October 2016*

Publications (*: Equal contribution. Listed alphabetically.)

- **Yen-Jen Wang,** Bike Zhang, Jianyu Chen, Koushil Sreenath. "Prompt a Robot to Walk with Large Language Models", *Preprint, arXiv 2309.09969*
- **Yen-Jen Wang,** Xiaoyu Chen, Hai Zhong, Yanjiang Guo, and Jianyu Chen. "Reinforcement Learning with Partial Order Representation for Monotonic Physical System", *Under Review*
- Yanjiang Guo*, **Yen-Jen Wang**, Lihan Zha*, Zheyuan Jiang, Jianyu Chen. "DoReMi: Grounding Language Model by Detecting and Recovering from Plan-Execution Misalignment", *Preprint, arXiv 2307.00329*
- Yanjiang Guo*, Zheyuan Jiang*, **Yen-Jen Wang,** Jingyue Gao, and Jianyu Chen. "Distributed Motor Skill Learning for Complex Robotic Systems", In *2023 IEEE Robotics and Automation Letters (RA-L)*

Research Experience

- **Hybrid Robotics, University of California, Berkeley**, Berkeley, CA   *July 2023 – Present*
  - **Prompt a Robot to Walk with Large Language Models**: Using LLM directly outputs the low-level action to make a robot walk.
  - **Point-goal Navigation for Quadrupedal Robots**: AI Habitat was utilized for training navigation, while legged_gym served for locomotion training. Our goal is to explore the mutual influence between the two aspects.
- **Institute for Interdisciplinary Information Sciences, Tsinghua University**, Beijing, China   *September 2021 – Present*
  - **Locomotion for Humanoid Robot:** Train an RL policy for our custom humanoid robot and address the sim-to-real transfer problem.
  - **Reinforcement Learning with Partial Order Representation**: Improve the sample efficiency of reinforcement learning by capturing monotonically changing physical quantities in the environment.
  - **Grounding Language Model by Detecting and Recovering from Plan-Execution Misalignment**: Use LLMs to detect exceptions and re-plan in real-time. This dual-role approach, where LLMs assist in high-level planning and generating constraints that can indicate misalignment during execution.
  - **Pour Water Task on A Mobile Manipulator**: 1. Use ROS to control the mobile manipulator to complete the pouring task. 2. Use more accurate observation as a teaching model to train students using image input.

Selected Professional Experience

- **Google LLC**   *July 2021 – October 2021*
  - Software Engineer Intern @ Android Core Networking Team, working with staff from Taiwan and Japan offices.
- **Pony.ai**   *July 2019 – August 2019*
  - Software Engineer Intern @ Planning and Control Team, working with staff from China and US offices.
- **Tsinghua University, Beijing, China**
  - Teaching Assistant in Advanced Topics in Robotics with Professor. Jianyu Chen.   *Spring 2023*
  - Director of the Organization Department of the Taiwan Students Association   *September 2022 – March 2023*
  - Problem Setter of the Undergraduate Recommended Admissions in CS department.   *January 2022 – August 2022*
- **National Taiwan University, Taipei, Taiwan**
  - Co-coach of the International Collegiate Programming Contest (ICPC) training course, which is instructed by Professors Chiou-Shann Fuh and Pu-Jen Cheng.   *August 2019 – January 2021*
  - The president of the Academic Association in the CS department.   *May 2019 – May 2020*
  - Mail service maintainer in the CS department.   *August 2018 – January 2021*
  - Coordinator @ IOICamp: A training camp for prospective high school and college students participating in Olympiads in Informatics and other programming competitions.   *June 2018 – January 2020*
- **Taiwan Olympiad in Informatics**
  - Co-coach of the Taiwan team in the International Olympiad in Informatics.   *March 2018 - July 2021*

Standard Language Tests

- **TOEFL: 107 (Reading: 30, Listening: 30, Speaking: 20, Writing: 27)**