Ruihan Yang
杨睿涵

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http://RchalYang.github.io

EDUCATION

- **UC San Diego** — San Diego, CA
  Ph.D in ECE / M.S in CS — *Sep. 2021 - Present / Sep. 2019 - Mar. 2021*

- **Nankai University** — Tianjin, China
  B.E in Software Engineering — *Sep. 2015 - Jul. 2019*

PUBLICATIONS & PREPRINTS

[1] Generalized Animal Imitator: Agile Locomotion with Versatile Motion Prior
Ruihan Yang*, Zhuoqun Chen*, Jianhan Ma*, Chongyi Zheng*, Yiyu Chen, Quan Nguyen, Xiaolong Wang
CORL 2024, Workshop Best Paper @ CORL 2023 Deployable Workshop

[2] Visual Whole-Body Control for Legged Loco-Manipulation
Minghuan Liu*, Zixuan Chen*, Xuxin Cheng, Yandong Ji, **Ruihan Yang** Xiaolong Wang
CORL, 2024 (Oral)

[3] Visual Manipulation with Legs
Xialin He*, Chengjing Yuan*, Wenxuan Zhou, **Ruihan Yang**, David Held, Xiaolong Wang
CORL, 2024

[4] ACE: A Cross-Platform Visual-Exoskeletons System for Low-Cost Dexterous Teleoperation
Shiqi Yang, Minghuan Liu, Yuzhe Qin, Runyu Ding, Jialong Li, Xuxin Cheng, **Ruihan Yang**,
Sha Yi, Xiaolong Wang
CORL, 2024

[5] Bunny-VisionPro: Real-Time Bimanual Dexterous Teleoperation for Imitation Learning
Runyu Ding*, Yuzhe Qin*, Jiyue Zhu*, Chengzhe Jia, Shiqi Yang, **Ruihan Yang**, Xiaojuan Qi, Xiaolong Wang
Arxiv, 2024

[6] SpatialRGPT: Grounded Spatial Reasoning in Vision-Language Models
An-Chieh Cheng, Hongxu Yin, Yang Fu, Qiushan Guo, **Ruihan Yang**, Jan Kautz, Xiaolong Wang, Sifei Liu
NeurIPS, 2024

[7] Harmonic Mobile Manipulation
Ruihan Yang, Yejin Kim, Rose Hendrix, Aniruddha Kembhavi, Xiaolong Wang, Kiana Ehsani
IROS 2024 (Best Paper on Mobile Manipulation, Oral)

[8] Learning Generalizable Feature Fields for Mobile Manipulation
Ri-Zhao Qiu*, Yafei Hu*, Ge Yang, Yuchen Song, Yang Fu, Jianglong Ye, Jiteng Mu, **Ruihan Yang**,
Nikolay Atanasov, Sebastian Scherer, Xiaolong Wang
Arxiv, 2024

[9] Expressive Whole-Body Control for Humanoid Robots
Xuxin Cheng*, Yandong Ji*, Junming Chen, **Ruihan Yang**, Ge Yang, Xiaolong Wang
RSS, 2024

[10] Neural Volumetric Memory for Legged Locomotion Control
Ruihan Yang, Ge Yang, Xiaolong Wang
CVPR 2023 (Highlight)

[11] Learning Vision-Guided Quadrupedal Locomotion End-to-End with Cross-Modal Transformers
Ruihan Yang*, Minghao Zhang*, Nicklas Hansen, Huazhe Xu, Xiaolong Wang
ICLR 2022 (Spotlight)

[12] Vision-Guided Quadrupedal Locomotion in the Wild with Multi-Modal Delay Randomization
Chieko Sarah Imai*, Minghao Zhang*, Yuchen Zhang*, Marcin Kierebiński, **Ruihan Yang**,
Yuzhe Qin, Xiaolong Wang
IROS 2022

[13] DexMV: Imitation Learning for Dexterous Manipulation from Human Videos
Yuzhe Qin*, Yueh-Hua Wu*, Shaowei Liu, Hanwen Jiang, **Ruihan Yang**, Yang Fu, Xiaolong Wang
ECCV 2022

[14] **Multi-Task Reinforcement Learning with Soft Modularization**
Ruihan Yang, Huazhe Xu, Yi Wu, Xiaolong Wang
NeurIPS 2020 / ICLR BeTR-RL workshop, 2020 (Oral)

[15] **Suphx: Mastering Mahjong with Deep Reinforcement Learning**
Junjie Li, Sotetsu Koyamada, Qiwei Ye, Guoqing Liu, Chao Wang, **Ruihan Yang**, Li Zhao, Tao Qin,
Tie-Yan Liu, Hsiao-Wuen Hon
Arxiv 2020

EXPERIENCE

The AI Institute (Boston Dynamics AI Institute) — Cambridge, MA
Research Intern @ DMM. — *Starting - Dec. 2024*

Allen Institute for AI (AI2) — Seattle, WA
Research Intern @ PRIOR. Work with Dr. Kiana Ehsani — *Jun. 2023 - Dec 2023*

Adobe Research — San Jose, CA(Remote)
Research Intern. Work with Dr. Ruben Villegas, Dr. Duygu Ceylan — *Jun. 2021 - Dec. 2021*

Microsoft Research Asia — Beijing, China
Research Intern at Machine Learning Group. Work with Qiwei Ye, Dr. Tao Qin — *Mar. 2018 - Jun. 2019*
   ○ Built AI for Mahjong (One of the hardest imperfect-information game, **most popular board game in East Asia**, well matched to the **top professional human player**

PROFESSIONAL SERVICE

Conference Reviewer	ECCV / CVPR / ICCV / NeurIPS / ICLR / ICML
	AAAI / ICRA / IROS / Humanoids
Journal Reviewer	RA-L / TRO

TEACHING EXPERIENCE

Math 155A: 3D Computer Graphics — *Fall. 2020*
Teaching Assistant

ECE 176: Introduction to Deep Learning and Applications — *Winter. 2021 / Winter. 2023*
Teaching Assistant

ECE 285: Introduction to Visual Learning — *Spring. 2024*
Teaching Assistant

HONORS & AWARDS

- Best Paper on Mobile Manipulation @ IROS 2024 (1 out of 2000+) — *Oct, 2024*
- Best Workshop Paper @ CORL 2023 Deployable Workshop — *Nov, 2024*

SELECTED PROJECTS

TorchRL — *Dec. 2018 - Present*
Personal implementation of various RL algorithms
   ○ Implemented various RL methods: off-policy and on-policy methods.
   ○ Earned over 150 stars on github.

AI for Prosthetics — *Jul. 2018 - Nov.2018*
NIPS 2018: AI for Prosthetics Challenge
   ○ Developed a controller to enable a physiologically-based human model with a prosthetic leg to walk and run.
   ○ Trained robotic controller using Proximal Policy Optimization(PPO), with symmetric loss / observation engineering / reward shaping / model using residual blocks. / dense goal-conditioned model
   ○ Ensembled multiple actors to cope with different circumstances
   ○ **Rank: 9th** (round1), **10th** (round2) & **Average Reward: 9800+**/10000

SKILLS & INTERESTS

Programming Languages	C++/Python/C/Java/Bash/Latex/SQL
Techniques	Git/OpenMP/SIMD/MPI/CUDA/Docker/Pybind/Pytorch/Tensorflow