

Liquan Wang

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EDUCATION

Georgia Institute of Technology

Transferred Ph.D. in Computer Science

Atlanta, US

Jan. 2024-Present

University of Toronto

Ph.D. in Computer Science, Master out due to supervisor's transfer

Toronto, Canada

Sept. 2021-Dec. 2023

University of Toronto (Major GPA 3.8/4.0)

Bachelor of Arts and Science, Specialist in Computer Science, Major in Math

Toronto, Canada

Aug. 2017 – May. 2021

Tsinghua University

Bachelor of Science in Physics

Beijing, China

Aug. 2015 – Aug. 2017

RESEARCH INTEREST

Robotics

Computer Vision

Reinforcement Learning

Computer Graphics

WORK EXPERIENCE

Research Intern in Embodied Intelligence, Samsung Research America

Supervised by Professor Kris Hauser

Aug. 2025 – Dec. 2025

Mountain View, CA

- Researched tactile sensing and dexterous manipulation for humanoid hands
- Built deep learning pipelines for multi-view video and latent action data collection
- Developed and evaluated world-model-centric VLA architectures for cross-embodiment transfer

Research Engineering Intern In Robotics Simulation, Nvidia

Supervised by Professor Animesh Garg(garg@cs.toronto.edu)

Jan. 2022 – Jan. 2023

Toronto, Canada

- Help develop MPM particle system in PhysX with CUDA
- Connecting MPM particle system from PhysX to OmniVerse
- Build robotic cutting task in IsaacSim with MPM particle system

Head Teaching Assistant, Georgia Institute of Technology

CS8003 Fall 2024: Deep Reinforcement Learning

Sept. 2024 – Dec. 2024

Atlanta, US

Teaching Assistant, Georgia Institute of Technology

CS6601 Summer 2024: Artificial Intelligence

Jan. 2024 – April. 2024

Atlanta, US

Teaching Assistant, Georgia Institute of Technology

CS6601 Spring 2024: Artificial Intelligence

April. 2024 – Aug. 2024

Atlanta, US

Teaching Assistant, University of Toronto

CSC498 Fall 2021: Introduction to Reinforcement Learning

Sept. 2021 – Dec. 2021

Toronto, Canada

RESEARCH EXPERIENCE

Robot Learning in PAIR lab, University of Toronto

Supervised by Professor Animesh Garg(garg@cs.toronto.edu)

Aug. 2019 – Present

Toronto, Canada

- Explored 3D vision which helps robotic manipulation tasks
- Used unsupervised model to train 3d object representation
- Solid experience using IsaacGym to design robotics manipulation task
- Rich experience working on model-based Bayes-adaptive approach to meta-RL
- Real robot working experience

Immersion Experience of Virtual Reality, Tsinghua University

Supervised by Professor Lifeng Sun(sunlf@tsinghua.edu.cn)

May 2017 – Aug. 2017

Beijing, China

- Explored motion capture and global Mini-map to generate instruction when people watching VR video
- Contributed experiments on how instructions will help the viewers

- Designed and analyzed experimental survey results

Reinforcement Learning, Tsinghua University

Supervised by Professor Zhidong Deng(michael@tsinghua.edu.cn)

April 2017 – Aug. 2017

Beijing, China

- Learned basic knowledge of Reinforcement Learning
- Completed chess AI project using Monte Carlo Tree Search

PUBLICATION

L. Wang, J. Bian, E. Heiden, A. Garg TopoCut: Learning Multi-Step Cutting with Spectral Rewards and Discrete Diffusion Policies, *Conference on Robot Learning (CoRL) 2025*

L. Wang, A. Goyal, H. Xu, A. Garg Discovering Robotic Interaction Modes with Discrete Representation Learning *Conference on Robot Learning (CoRL) 2024*

L. Wang, N. Dvornik, R. Dubeau, M. Mittal, A. Garg Self-Supervised Learning of Action Affordances as Interaction Modes *International Conference on Robotics and Automation (ICRA) 2023*

D. Turpin, **L. Wang**, E. Heiden, Y. Chen, M. Macklin, S. Tsogkas, S. Dickinson, A. Garg Grasp'D: Differentiable Contact-rich Grasp Synthesis for Multi-fingered Hands (Oral) *European Conference on Computer Vision (ECCV) 2022*

D. Turpin, **L. Wang**, S. Tsogkas, S. Dickinson, A. Garg Self-Supervised Discovery of Contact-Aware Tool Affordances. *Robotics: Systems and Science (RSS) 2021*

S. Cao, C. Reddy, M. Maghani, **L. Wang**, A. Garg KeyGen: Unsupervised Keypoint based Object-Centric Representations for Category-Level Generalization, *International Conference on Robotics and Automation (ICRA) 2025 in submission*

ONGOING PROJECTS

L. Wang, W. Yu, A. Goyal, A. Garg. Predictive Representations for Efficient Video -based Action Learning

AWARDS

Dean's List Scholar: Faculty of Arts and Science, Fall/Winter 2019-2021 Session

PROGRAMMIN SKILLS

Languages: Java, Python, C/C++, CUDA, HTML/CSS, C#

Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ

Libraries: pytorch, Tensorflow, mujoco, gym, ros, cv2, NumPy, Matplotlib, IsaacGym, IsaacSim

PERSONAL INTEREST AND SKILLS

Playing the violin: Have been playing the violin since 8

Playing Chess: Have become a national level athlete in chess when I was only 12