Yifan Su

yifansu2003@gmail.com | 412-952-8850 | Website

Education

Carnegie Mellon University December 2024

B.S. in Computer Science

Research and Industry Experience

Skild AI March 2025–Present

Research Scientist

- Sole developer of the humanoid soccer demo: trained policies through simulated self-play in Isaac Sim and transferred them to real hardware. [Soccer demo]
- Lead Unitree G1 sim-to-real deployment, including simulation fidelity, domain randomization, and control tuning.
- Built G1 parkour deployment and safety filters to handle control latency, sensor noise, and hardware constraints. [Parkour demo]

Pathak Research Group, CMU Robotics Institute 2023–2024

Research Assistant · Advisor: Prof. Deepak Pathak

- Co-developed Evolutionary Policy Optimization (EPO), combining evolutionary search with policy gradients; designed the algorithm and ran large-scale GPU experiments for locomotion and manipulation.
- Led a self-play quadruped predator–prey project: designed the pursuit–evasion environment and curriculum; studied emergent interception and terrain-aware evasion to inform intrinsic rewards.

ARCS Lab, CMU Robotics Institute

Research Assistant · Advisor: Prof. Jiaoyang Li

- Developed bidirectional temporal plan graphs for switchable passing orders, reducing waiting under execution delays.
- Proved collision- and deadlock-free execution; led BTPG-max to construct locally maximal sets of switchable pairs.

AirLab, CMU Robotics Institute 2022–2023

Research Assistant

- Built a Raspberry Pi/ROS GPS backpack and a Python/C++ health monitor for real-time drone status; investigated multi-drone coverage and submodular maximization.

Publications

BTPG-max: Achieving Local Maximal Bidirectional Pairs for Bidirectional Temporal Plan Graphs. [Paper]
Y. Su, R. Veerapaneni, J. Li. AAAI 2026 (oral).

Evolutionary Policy Optimization. [Paper]
J. Wang, Y. Su, A. Gupta, D. Pathak. arXiv, 2025.

Bidirectional Temporal Plan Graph: Enabling Switchable Passing Orders for More Efficient Multi-Agent Path Finding Plan Execution. [Paper]
Y. Su, R. Veerapaneni, J. Li. AAAI 2024 (oral).