Xinran Tang

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Education

University of Central Florida — Orlando, FL
PhD in Computer Engineering, Advisor: George Atia — *Aug. 2024 – Present*

New York University — New York, NY
MS in Computer Engineering, Advisor: Chen Feng, Cumulative GPA: 3.77/4.0 — *Sept. 2022 – May. 2024*

University of Nottingham — UK
BSc Honours in Computer Science, First Class Degree — *Sept. 2018 – Jun. 2022*

Technical Skill

Programming languages: Python, Java, C/C++, MATLAB, LaTeX, VHDL/Verilog, HTML/CSS/JavaScript, Git

Frameworks/Libraries: PyTorch, OpenCV, OpenAI.Gym, CUDA programming , OpenGL, ROS/ROS 2, HPC Toolkit, React

OS: Linux, MacOS, Windows

Research Projects

Robust Robust Reinforcement Learning from Human Feedback — Aug. 2024 – Present
University of Central Florida, Prof. George Atia

- Implement robust RLHF with uncertainty in reward distributions

Visual Room Rearrangement — Oct. 2023 – May. 2024
New York University, AI4CE Lab

- Used YOLO and Segment Anything Model (SAM) to segment objects in the AI2Thor simulator.
- Integrated scene reasoning via Large Language Model (LLM).

Embodied AI Platform — Sep. 2023 – May. 2024
New York University, AI4CE Lab, NYU self-drive VIP Student Team Leader

- Implement visual navigation task using simulation platform with limited GPU resources and achieve good result.
- Further capture the real-world images using TurtleBot (Raspberry Pi + Raspberry Pi camera v2).
- Implement the algorithm into the real world platform.

Reinforcement Learning for Robot Grasping — Mar. 2023 – Jun. 2024
New York University, MMVC Lab

- Automatically designed best encoder models using LLM for different robot environments.
- Integrated an evolutionary algorithm to drive the NAS algorithm.
- Conducted training sessions in OpenAI Gym environments, including Hopper, Humanoid, and Swimmer; MuJoCo self-designed environments, including push box and slide puck.

3-D Multi-Camera Gaze Estimation System with Long Distance — Jun. 2020 – Jun. 2022
University of Nottingham, Prof. Ying Weng

- Achieved consistent gaze detection for head rotations between -60° and 60° across long distances.
- Optimized gaze estimation through vector dynamics between pupil center and corneal reflection.
- Transitioned from 2D to an innovative 3D model using a cutting-edge deflection matrix.
- Enhanced accuracy by uniquely weighting side cameras and combining data from three FLIR Blackfly S USB3 cameras.

Awards & Honors

UCF Graduate Artificial Intelligence Initiative Fellowship	2024 - 2025
NYU Graduate School of Engineering Scholarship	2022 - 2024
The Appreciate Presenter at the 2021 4th International Conference on Computing and BigData	Nov. 2021
The Meritorious Winner of 2021 Interdisciplinary Contest in Modeling	Feb. 2021
The Successful Participant Award of Asia and Pacific Mathematical Contest in Modeling	Nov. 2020
The Second prize of the 10th National MathorCup university mathematical modeling challenge	Jun. 2020