

Wanjia Fu

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EDUCATION

Brown University

Providence, RI | Expected Graduation May 2026

Expected Sc.B in Computer Science and A.B in Mathematics

• Relevant Courses: (*grade: A*): Learning and Sequential Decision Making, Deep Learning, Computer Vision, Computer Graphics, Introduction to Software Engineering (*grade: S**), Introduction to Computer Systems, Accelerated Introduction to Computer Science, Applied Statistics in Python, Operations Research: Probabilistic Models, Computational Probabilities and Statistics, Abstract Algebra, Honors Linear Algebra, Applied Partial Differential Equations, Honors Multivariable Calculus, Honors Statistical Inference, Applied Ordinary Differential Equations; (*expected grade: A*): Computer Networks, Design and Analysis of Algorithms, Real Analysis

RESEARCH

Vibration Haptics Tactile Sensing, *Brown Interactive 3D Vision & Learning Lab*

Providence, RI | Jan 2024 – now(ongoing)

- Designed portable wrist hardware device containing with Inertial Measurement Unit (IMU), using which to collect hand object contact sensor and visual data
- Preprocessed RGB camera data with MANO fitting pipeline to obtain pose estimation results and contact heatmap, built a neural network to improve hand-object contact detection and localization
- Integrated IMU sensor and its data visualization into Brown Interaction Capture System (BRICS), participated in the hardware assembling and software calibration for the room-sized capture studio with professor Dr. Srinath Sridhar

Shape-Based Skill Transfer, *Research Assistant at Intelligent Robotics Lab*

Providence, RI | Aug 2023 – Aug 2024

- Learned latent representations of object parts for mugs and spatulas to carry out pouring and scooping tasks, and tried to learn a robust skill for all shapes of the same object category, with advisor Dr. George Konidaris
- Worked on ROS and reinforcement learning, Boston Dynamics Spot robots, and KUKA robotic arms with radar cameras

Pinhole Camera Models, *Student Researcher in Brown Visual Computing*

Providence, RI | June 2023 - Aug 2023

- Employed front-end and back-end development with Three.js, Javascript, HTML, and CSS to create an online website tutorial on camera projection and perspective projection for the class Computer Vision for Dr. James Tompkin
- Improved upon two existing online tutorials on affine transformations and the fundamental matrix for course development

PROJECT, INTERNSHIP & ON CAMPUS EMPLOYMENT

TOLD-ZERO: Generalize TD-MPC2 to discrete action spaces

Providence, RI | Apr 2024 - May 2024

- Integrated Monte Carlo Tree Search (MCTS) into learning based on Task-Oriented Latent Dynamics (TOLD) model
- Benchmarked TD-MPC2 (Temporal Difference Model Predictive Control) on tasks with continuous action spaces using LightZero framework, and generalize TD-MPC2 to discrete action spaces
- Analyzed the role of planning in model-based reinforcement learning (MBRL), including the Model Predictive Path Integral

Hydsoft Technology Co. Ltd., *Product Operation Intern*

Shanghai, China | May 2023 - Jun 2023

- Designed AI customer service based on Baidu UNIT and NLP as an intelligent customer service product operation engineer
- Received the Certificate of Achievement as Intelligent Customer Service Product Operation Engineer by Baidu AI Cloud
- Engaged in front-end design as part of the team for China Mobile Smart Card Production Platform

Brown Computer Vision, *Undergraduate Teaching Assistant; Head Teaching Assistant*

Providence, RI | Jan 2024 - Dec 2024

- Work as one of the 24 undergraduate teaching and later one of the two head TAs for the class CSCI 1430 Computer Vision
- Helped design and develop course material, improved its webpage on a biannual basis, managed organization Github repository, upgraded Gradescope autograders, maintained and managed assignment code management

SKILLS & INTERESTS

Technical Skills: (fluent) Python, HTML, CSS; (experience) Java, C++, C, Typescript, Javascript, WebGL, OpenGL, Go Lang, React

Language: Trilingual proficiency in English, Spanish (Awarded C1 by El Instituto Cervantes), Chinese

Interests: Semi-professional Chinese traditional dance, piano, taekwondo, novel writing, painting, drums, guitar, and tennis

ACTIVITIES & LEADERSHIP EXPERIENCE

Brown IgniteCS, *Member*

Providence, RI | Sept 2023 – May 2024

- Designed and developed a series of courses related to AI and taught as guest lecturer at Nathanael Greene Middle School
- Designed and developed the coding club on HTML, CSS at the Sophia Academy coding club for 1.5 hours per week

Brown Moli East Asian Dance Company, *Co-Secretary Chair; Co-Director*

Providence, RI | May 2022 – now(ongoing)

- Prepare for annual spring show, teach Chinese dances, organize rehearsals, participate in shows on and off campus