Feiyu "Gavin" Zhu

+1 412-608-4566 | feiyuz@andrew.cmu.edu | zfy0314.github.io | Pittsburgh, PA, USA

Education

Carnegie Mellon University Robotics Institute Aug. 2024 – May 2030
Ph.D. in Robotics (QPA 4.0/4.0) *Pittsburgh, PA, USA*
Focus: Human-Robot Collaboration, Neuro-Symbolic AI, Cognitive Robotics, LLM Agents
Advisors: Reid Simmons, Jean Oh

Carnegie Mellon University School of Computer Science Aug. 2020 – May 2024
B.S. in Artificial Intelligence with additional major in Cognitive Science (QPA 4.0/4.0) *Pittsburgh, PA, USA*
Thesis: Incorporating Instructive Feedback in Human-AI Interaction
Advisor: Reid Simmons

Experience

Academic Collaborator / Research Advisor I (Part-Time) Sept. 2025 – Present
Magnit @ Meta *Remote*
- Investigating LLM code synthesis for generating data analysis scripts and enhancing causal models

Publications

Interactive Policy Restructuring and Training
in *submission to Human-Robot Interaction (HRI) 2026*
Feiyu Gavin Zhu, Jean Oh, Reid Simmons

Sample-Efficient Behavior Cloning Using General Domain Knowledge (acceptance rate 19.3%)
in *International Joint Conference on Artificial Intelligence (IJCAI) 2025* ***(Oral)***
Feiyu Zhu, Jean Oh, Reid Simmons

Bootstrapping Cognitive Agents with a Large Language Model (acceptance rate 23.75%)
in *The AAAI Conference on Artificial Intelligence 2024* ***(Oral)***
Feiyu Zhu, Reid Simmons

SQE: Self Quality Evaluation Metric for Parameters Optimization in Multi-Object Tracking (acceptance rate 25.01%)
in *CVF/IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020*
Yanru Huang, **Feiyu Zhu**, Zheni Zeng, Xi Qiu, Yuan Shen, Jianan Wu

Research Experience Before PhD

Research Assistant *(Advisor: Prof. Reid Simmons)* Feb. 2021 – May 2024
Reliable Autonomous Systems Lab, Carnegie Mellon University *Pittsburgh, PA, USA*
- Developed a cognitive architecture for embodied agents for household tasks
- Developed a bootstrapping framework to use LLMs to initiate cognitive agents
- Developed decision-tree-based agents that execute human-like strategies
- Conducted and analyzed online user study for partnering with human players in Hanabi
- Present to Amazon collaborators monthly

Research Assistant *(Advisor: Prof. Alexander Mathis)* May 2022 – Jan. 2023
Center for Neuroprosthetics, École Polytechnique Fédérale de Lausanne (EPFL) *Geneva, Switzerland*
- Built random forest model for healthy subjects' movement trajectory classification
- Developed weakly supervised local feature descriptor for localization and evaluation of stroke-related movements
- Experimented with rendering tools based on SMPL models for better annotations
- Built Fugl-Meyer Assessment estimator for stroke patients performing activities of daily living
- Explored intrinsic properties of stroke/healthy movement trajectories with functional PCA

Research Assistant *(Advisors: Prof. Yonatan Bisk, Dr. Chris Paxton [NVIDIA])* Feb. 2021 – Dec. 2021
Connecting Language to Actions & the World Lab, Carnegie Mellon University *Pittsburgh, PA, USA*
- Worked on multimodal action anticipation in the kitchen environment with transformer models
- Designed crowd-sourcing interface for kitchen video data annotation on AWS Mechanical Turk
- Implemented video summarization algorithm for video processing

Honors and Awards

SoftBank Group–Arm Fellowship, *SoftBank Group Corp.* Aug. 2025
Member, *The Phi Beta Kappa Society* Apr. 2024
Honorable Mention, *CRA Outstanding Undergraduate Research Awards* Jan. 2024
Summer Undergraduate Research Fellowship, *Carnegie Mellon University (*$4500*)* Jun. 2023
Member, *Mortar Board* Apr. 2023
Member, *Psi Chi, The International Honor Society in Psychology* Jan. 2023
Summer@EPFL Research Fellowship, *École Polytechnique Fédérale de Lausanne (EPFL) (*5400*CHF)* Aug. 2022
ThinkSwiss Research Scholarship, *Embassy of Switzerland in Washington, D.C.* Feb. 2022
Dean's List, High Honors, *School of Computer Science, Carnegie Mellon University* All semesters

Teaching Experience

Teaching Assistant *(Primary Instructor: Prof. Stephanie Rosenthal)* Aug 2022 – Dec. 2024
CMU 15-281 Artificial Intelligence: Representation and Problem Solving *Pittsburgh, PA, USA*
- Head TA (led a team of 9 TAs) for Fall 2023

Teaching Assistant *(Primary Instructor: Prof. Reid Simmons)* Jan. 2022 – Mar. 2024
CMU 07-180 Concepts in Artificial Intelligence *Pittsburgh, PA, USA*
- Head TA (led a team of 10 TAs) for Spring 2023, Spring 2024

Mentoring

James Tcheng, *CMU Undergrad* Sept 2025 - Present
Yiyu "Romy" Chen, *CMU Undergrad* Sept 2025 - Present
Justin Ma, *CMU Undergrad* May 2025 - Sept 2025
Shridula Srinivasan, *CMU Undergrad* May 2025 - Aug 2025

Invited Talks

SoftBank Group Research Talk, *Incorporating General Knowledge with Specific Demonstrations* Sept. 2025
DDMLab at CMU, *Bootstrapping Cognitive Agents with a Large Language Model* Mar. 2025

Service

Reviewer:
HRI (2026), AAAI (2026), International Journal of Social Robotics (2025)
Outreach:
Pathway to AI Research (PAIR) at CMU (2024)
CMU Graduate Application Support Program (2025)
Volunteering:
Conference volunteer at IJCAI (2025)

Skills

Programming: Python, C, Pytorch, huggingface, spaCy, scikit-learn, NumPy, lightgbm, ACT-R
Other Tools: LaTeX, Unix, Vim, Git, Docker
Languages: Chinese, English

References

Prof. Reid Simmons, *Carnegie Mellon University* Research advisor; undergraduate academic advisor
Prof. Jean Oh, *Carnegie Mellon University* Research advisor
Prof. Alexander Mathis, *École Polytechnique Fédérale de Lausanne (EPFL)* Research advisor
Prof. Yonatan Bisk, *Carnegie Mellon University* Research advisor
Prof. Stephanie Rosenthal, *Carnegie Mellon University* Course instructor for teaching assistant