Kaitlynn T. Pineda

kpineda3@jhu.edu • kaitlynntpineda.com • LinkedIn • Google Scholar

RESEARCH OVERVIEW

My research focuses on integrating robot-initiated social small talk into physical, human-robot collaborative tasks, aiming to enhance interactive experiences without causing task disruptions. I am currently developing an autonomous robot system powered by Large Language Models (LLMs) that will serve as a collaborative teammate and engage in small talk.

EDUCATION

Johns Hopkins University, Baltimore, MD   08/2021 – Present
PhD Student in Computer Science
Advisors: Chien-Ming Huang and Gregory D. Hager
Selected Coursework: Human-Robot Interaction, Human-Computer Interaction, Computer Vision, Deep Learning

Yale University, New Haven, CT   08/2017 – 05/2021
*Bachelor of Science in Electrical Engineering and Computer Science, **Certificate** in Spanish*
Selected Coursework: Intelligent Robotics Laboratory (Graduate level), Building Interactive Machines, Artificial Intelligence, Neural Networks and Learning Systems, Systems Programming, Digital Systems, Circuits and Systems Design, Electronics

RESEARCH EXPERIENCE

Johns Hopkins University, Baltimore, MD   08/2021- Present
Graduate Research Assistant
- Conducts research in Laboratory for Computation Sensing and Robotics and Intuitive Computing Lab

Yale University, New Haven, CT
Undergraduate Research Assistant (STARS II Program) | Social Robotics Lab   08/2019 – 05/2021
- Designed a project to detect human uncertainty for task completions in Human-Robot Interaction settings
- Developer on the Yale *Robots for Good* project that helps children fight social isolation during COVID-19
- Conducted behavioral analysis of children with ASD using a long-term, in-home socially assistive robot
- Presented at the 2021 STARS II Symposium and the 2021 Pauli Murray College Mellon Forum

Undergraduate Research Assistant (STARS I Program) | Social Robotics Lab   05/2018 – 07/2018
- Designed experimental structure to analyze the human sense of fairness and trust in robots
- Programmed a video game interface through Unity for participant interaction
- Presented at the 2018 STARS I Summer Symposium and the 2018 Yale Undergraduate Research Symposium

Université catholique de Louvain, Louvain-la-Neuve, Belgium   05/2019 – 07/2019
Research Assistant
- Worked with convolutional neural networks (CNNs) for biomedical image segmentation
- Trained an autoencoder to capture the morphological structure of the segmentation labels
- Regularized the CNN-based segmentation model based on the decoder learned from the priors

WORK EXPERIENCE

Meta, Menlo Park, CA
Software Engineering Intern | Oculus   06/2021 – 08/2021
- On the Planck Length team within Facebook Reality Labs creating a pipeline to facilitate synthetic data generation
- Developed internal visualization tools for the verification of proposed algorithms

Software Engineering Intern | FAIAR   06/2020 – 08/2020
- On the AI Applied Research – Conversational AI team working on dialog policy for future smart glasses
- Developed internal testing tools for android and web-based platforms

SELECTED PUBLICATIONS

Peer-Reviewed Journal Articles

[J-1]. G. Ajaykumar, **K. T. Pineda,** & C. M. Huang. (2023). *Older adults' expectations, experiences, and preferences in programming physical robot assistance.* International Journal of Human-Computer Studies, 180, 103127.

Peer-Reviewed Conference Papers

[C-2]. N. Salomons, **K. T. Pineda**, A. Adéjàre, & B. Scassellati. (2022). *"We Make a Great Team!": Adults with Low Prior Domain Knowledge Learn more from a Peer Robot than a Tutor Robot.* In proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction (HRI '22)

[C-1]. N. Tsoi, J. Connolly, E. Adéníran, A. Hansen, **K. T. Pineda**, T. Adamson, S. Thompson, R. Ramnauth, M. Vázquez, & B. Scassellati. (2021). *Challenges Deploying Robots During a Pandemic: An Effort to Fight Social Isolation Among Children.* In proceedings of the 2021 ACM/IEEE International Conference on Human-Robot Interaction (HRI '21). March 8–11, 2021, Boulder, CO, USA.

Preprints

[M-1]. **K. T. Pineda,** A. Mahmood, & C. M. Huang. *"You Might Like It": How People Respond to Small Talk in Human-Robot Collaboration. I*n: *arXiv preprint arXiv:2312.07454* (2023).

AWARDS

Robotics Science and Systems (RSS) Inclusion Fellow   06/2022 – 07/2022

Johns Hopkins Computer Science Departmental Fellowship   08/2021 – 07/2022
- Awarded to a prospective CS PhD student who has shown exceptional promise

Howard and Jacqueline Chertkof Endowed Fellowship   08/2021 – 07/2022
- A donor-funded award within the Whiting School of Engineering that supports graduate financial aid
- Recipients of a named fellowship have been nominated by their department

Science, Technology and Research Scholars (STARS) II Program   10/2019 – 05/2021
- Yale College fellowship program that supports underrepresented minority students in their professional and academic development during their final two years of undergraduate studies
- Program provides mentorship, professional development workshops, and financial support for research

Alan S. Tetelman 1958 Fellowship for International Research in the Sciences   05/2019 – 07/2019
- Yale College fellowship program that provides support for original undergraduate research projects abroad in the natural and applied sciences

Science, Technology and Research Scholars (STARS) I Summer Program   05/2018 – 07/2018
- Yale College fellowship program that supports first or second-year underrepresented minority students in their summer research
- The STARS I Summer program provides a stipend and scientific communication development through the class, *Scientific Research: Process and Presentation*, taken concurrently

Science, Technology and Research Scholars (STARS) I Program   09/2017 - 05/2018
- Yale College program that establishes community among students of color in STEM and supports first-year underrepresented minorities in STEM fields through workshops and a peer mentorship program

TEACHING EXPERIENCE

Computer Science Teaching Assistant, Baltimore, MD   08/2022 – 12/2022, 08/2023 – 12/2023
EN.601.490/690 Human-Computer Interaction
- Held weekly office hours, graded assignments, and facilitated in-class exercises
- Prepared and gave a course lecture regarding empirical studies in human-AI interaction

Computer Science Learning Assistant, New Haven, CT
CPSC 470/570 Artificial Intelligence TA   01/2022 – 05/2022
- Held weekly remote office hours, graded assignments, and attended weekly staff meetings
- Prepared and gave a course lecture and led the in-person final exam review session

CPSC 223 Data Structures Undergraduate Learning Assistant (ULA)   01/2020 – 05/2020
- Held evening office hours to assist students with their programming problem sets
- Attended weekly staff meetings with the course instructor and other ULAs to discuss course material

Science and Quantitative Reasoning Tutoring Program, New Haven, CT   11/2020 – 12/2020
CPSC 223 Data Structures Peer Tutor
- Held 1-1 tutoring sessions with students to review course concepts and prepare for exams

SERVICE

Organizer for RSS 2022 Workshop   01/2022 – 07/2022
- Close Proximity Human-Robot Collaboration Workshop: Challenges and Opportunities

Johns Hopkins LCSR Graduate Student Association, Baltimore, MD
President   01/2024 – Present
- Leads executive board managing $8000 per year in student resources

Johns Hopkins Computer Science Graduate Student Council, Baltimore, MD   04/2022 – Present
Social Committee
- Plan and assist in community and social events involving graduate students in the Computer Science department

Yale Computer Science Departmental Student Advisory Committee, New Haven, CT
DSAC Board Member   01/2020 – 05/2020
- Held meetings with the Director of Undergraduate Studies and Department Chair during the academic year, and planned events for CS students; Yale CS student representative to the faculty and administration

Yale Society of Women Engineers, New Haven, CT
Vice President   08/2019 – 05/2020
- Organized professional development and community events for undergraduate women in engineering

SKILLS

Programming: Python (PyTorch), C, C++, MATLAB, R, Java, LaTex, Git, Linux Commands, Verilog HDL

Software: ROS, Gazebo, Rviz, JMP, MAXQDA, AutoCAD, Unity, Adobe Illustrator

Hardware: Franka Research 3, Kinova Gen3, UR5, Pupil Labs Invisible (gaze tracking), Arduino