Bryce Ikeda

bikeda@cs.unc.edu | https://bryceikeda.netlify.app/

Education

University of North Carolina — Chapel Hill, NC
Doctor of Philosophy in Computer Science — May 2025
Advisor: Daniel Szafir

University of Rochester — Rochester, NY
Master of Science in Electrical and Computer Engineering — May 2020
Advisor: Thomas Howard

University of Rochester — Rochester, NY
Bachelor of Science in Electrical and Computer Engineering — May 2019
Overall GPA: 3.68/4.00, Cum Laude

Honors & Awards

CompEd Program Chair's Best Paper Award — 2023

HRI Pioneers — 2022
A highly selective workshop seeking to foster creativity and collaboration among young researchers in HRI

CoSIDA Academic All-America Team — 2018

Scholar All-America Team — 2017–2018

Dean's List — 7 Semesters

Conference and Journal Publications

[1] **Bryce Ikeda** and Daniel Szafir. "**PRogramAR: Augmented Reality End-User Robot Programming**". In: *ACM Journal on Human-Robot Interaction*. 2024.

[2] **Bryce Ikeda**, Janine Hoelscher, Ron Alterovitz, and Daniel Szafir. "**Guiding the Development of Undergraduate Educational Robotics**". In: *Proceedings of the ACM Conference on Global Computing Education*. 2023. 35% **(Best Paper Award)**.

[3] **Bryce Ikeda** and Daniel Szafir. "**Advancing the Design of Visual Debugging Tools for Roboticists**". In: *2022 17th ACM/IEEE International Conference on Human-Robot Interaction*. 2022. 24.36%.

Workshop Publications

[1] **Bryce Ikeda**. "**AR Indicators for Visually Debugging Robots**". In: *2022 17th ACM/IEEE International Conference on Human-Robot Interaction (HRI)*. 2022. 28.5%.

[2] **Bryce Ikeda** and Daniel Szafir. "**An AR Debugging Tool for Robotics Programmers**". In: *4th International Workshop on Virtual, Augmented, and Mixed Reality for HRI*. 2021.

Research Experience

Research Assistant — 2020–Present
University of North Carolina — Chapel Hill, NC

- Lead research focused on designing systems that help end-users understand and interact with robots
- Designed and evaluated novel augmented reality robot programming and debugging tools for end-users
- Coordinated and conducted multi-site users studies resulting in a conference publication

Research Assistant — Summer 2023
Naval Research Laboratory — Washington, DC

- Advisor: J. Gregory Trafton
- Investigated the effects of social robot navigation principles on participants' perceptions
- Implemented legibility, social norms, and safety on the Spot robot, a quadruped mobile robot

Professional Experience

Engineering Intern Summer 2019
Spectranetix Inc. Mukilteo, Washington
- Developed an embedded temperature controller module using Verilog on an FPGA
- Wrote test benches to confirm proper functionality of I2C communication for sensors

Engineering Intern Summer 2018
Harris Corporation Rochester, NY
- Wrote Python scripts that automatically tested firmware compatibility on military radios
- Used ASCII commands to communicate with military radios through serial
- Automatically collated results reducing weeks of manual testing time and eliminating user errors

Engineering Intern Summer 2017
Bechtel Marine Propulsion Corporation Pittsburgh, PA
- Developed a proof of concept project on FPGA Zedboards in C
- Used cryptographic algorithms to create secure communication
- Designed and implemented a user-friendly interface to execute user commands

Academic Service

General Chair
HRI Pioneers at the ACM/IEEE International Conference on Human-Robot Interaction 2023

Organizer
HRI Workshop on Virtual, Augmented, and Mixed Reality for Human-Robot Interaction 2023, 2024

Teaching Experience

Introduction to Virtual Reality, Teaching Assistant Spring 2023
Starting Computing, Teaching Assistant Fall 2021
Fundamentals of Human-Computer Interaction, Course Manager Spring 2021
Senior Capstone, Teaching Assistant Spring 2021
Senior Capstone, Teaching Assistant Fall 2020
C/C++ Programming, Teaching Assistant Spring 2020
Circuits and Signals, Teaching Assistant Fall 2019

Technical Skills

Languages: C#, C++, Python
Developer Tools: Unity, ROS, WSL 2, HoloLens 2, Arduino
Methods: Interviews, Thematic Analysis, User Centered Design

Leadership

Student Representative 2022–Present
Computer Science Student Association, University of North Carolina

Head Coach 2022–Present
Triangle United Youth Development Academy

Student Alumni Ambassador 2017–2020
University of Rochester
- Selected to assist with on-campus, local and regional alumni events
- Provided current student perspective to the Board of Trustees and Alumni

Assistant Coach 2019
Varsity Men's Soccer Team, University of Rochester

Team Captain 2017–2018
Varsity Men's Soccer Team, University of Rochester