

# Alexandra Bejarano

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**SKILLS** | Java, Python, Javascript, Unity, ROS, Human-Subject Experimental Design, Qualitative Research Methods, Statistical and Thematic Data Analysis, Interface Prototyping and Implementation

## EDUCATION

### Ph.D. Computer Science

Golden, CO | May 2025

Colorado School of Mines

**Teaching Assistant (TA):** *Computer Vision, Robot Ethics*

**Select Coursework:** *Human-Robot Interaction (HRI); Computer Vision; Human-Centered Robotics; Robot Ethics; Augmented Reality; Fundamentals of College Teaching; Social and Collaborative Computing*

### M.S. Computer Science

Golden, CO | Dec 2022

Colorado School of Mines

**Project:** *Conducted literature review of interactions and perceptions of robot groups. Designed and completed a human-subject study exploring trust distribution among a robot group based on identity.*

### B.S. Computer Science

Tulsa, OK | May 2020

University of Tulsa

**Select Coursework:** *Fundamentals of Algorithm and Computer Applications; Data Structures; Database Systems; Game Programming; Web Apps Development; Interaction Design*

## RESEARCH EXPERIENCE

### Virginia Tech | Postdoctoral Associate, LANCSET

Blacksburg, VA | June 2025 – Present

**Advised by Dr. Qin Zhu.** *Work on fostering a culture of compassion in STEM education using methodologies from HRI and Engineering Education.*

### Colorado School of Mines | Research Assistant, MIRRORLab

Golden, CO | Aug 2020 - May 2025

**Advised by Dr. Tom Williams.** *Researched robot group identity performance strategies and user mental model formation in HRI. Design and implementation of multi-robot control interfaces.*

### University of Tulsa | Research Assistant

Tulsa, OK | Jan 2019 - Jul 2020

**Advised by Dr. Sandeep Kuttal.** *Researched remote human-human pair programming to assess gender differences, human-computer pair programming, and computer programmers online foraging behavior to inform Human-Computer Interaction technology design.*

### University of Notre Dame | Research Assistant

St. Joseph County, IN | May 2019 - Jul 2019

**Advised by Dr. Aaron Striegel.** *Participated in an NSF REU Program at the University of Notre Dame's Wireless Institute. Researched the use of network data packets and signal interference towards the development of a system in which WiFi may be used to detect tree leaves for optimal leaf pickup.*

### Oregon State University | Research Assistant

Corvallis, OR | May 2018 - Jul 2018

**Advised by Dr. Kagen Tumer.** *Participated in an NSF REU Program at OSU's Autonomous Agents and Distributed Intelligence Lab. Researched the use of counterfactuals in reinforcement learning to enhance the performance of intelligent agents within a simulated multi-agent rover domain.*

### University of Tulsa | Research Assistant

Tulsa, OK | May 2016 - Aug 2017

**Advised by Dr. Julio Diaz.** *Researched robot design for HRI through manipulation of robot appearance and a user control interface to assist children with special needs to play.*

## PROFESSIONAL SERVICE & OUTREACH

### Mentorship | Research mentor to high school, undergraduate, and graduate students

2021 - Present

### Trefny Graduate Teaching Fellowship | Fellow

2023-2024

*Provided feedback on teaching portfolios and conducted course teaching observations for graduate students in the College Teaching Certificate Program. Created a resource for educators that highlights ethics discussion and broader thinking in computer science courses. [View Project](#)*

### Graduate Student Government | Director of Media/Marketing, DEI Committee Member

2023-2024

### Conferences & Journals | Paper Reviewer

Present

*ACM/IEEE International Conference on Human-Robot Interaction - 2023, 2024, 2025*

*ACM CHI Conference on Human Factors in Computing Systems - 2024, 2025*

*ACM Transactions on Human-Robot Interaction - 2023, 2024, 2025*

IEEE International Conference on Robot & Human Interactive Communication - 2023, 2024, 2025  
International Journal of Social Robotics - 2022, 2024  
ICSR Workshop HRI for Space Robotics - 2021

**HRI Conference** | Workshop Organizer 2022-2024  
2024 HRI Robo-Identity Workshop  
2023 HRI Pioneers Workshop, Web/Publicity Chair

**Summer Multicultural Engineering Training Program** | Workshop Organizer Jun 2023  
Organized and ran interactive robot design workshops for high students in the SUMMET program.

**Society of Hispanic Professional Engineers** | Outreach Organizer and Volunteer 2019-2023  
**CSM Chapter:** National Dia de Ciencias, assisted in STEM activity engagement with high school students.  
Dia de Ciencias, presented about HRI to students and their families.  
**TU Chapter:** Noche Dia de Ciencias, organized STEM activities for middle and high school students.

## RECOGNITIONS

**Dr. Bhakta Rath and Sushama Rath Research Award** | Winner May 2025  
Dissertation: "Understanding Users' Mental Models of Flexibly Configurable Multi-Robot Systems"

**Trefny Graduate Teaching Fellowship** | Fellow Aug 2023 - May 2024

**Roboethics Competition at ICRA 2023** | 1st Place Winning Team Jul 2023  
Proposal: "NICE: An ethically-sensitive design framework for fetch robots in care contexts"

**HRI Pioneers Workshop** | Selected for 2022 Cohort Mar 2022

**NSF Graduate Research Fellowship Program** | Honorable Mentions Jan 2020, 2021

**Oklahoma Louis Stokes Alliance for Minority Participation** | Scholar 2016 - 2020

## PUBLICATIONS

### CLSTR: Capability-Level System for Tracking Robots

Alexandra Bejarano, Claire Bonial, Tom Williams  
2025 IEEE Conference on Robotics and Automation. [Read Paper](#)

### Hardships in the Land of Oz: Robot Control Challenges Faced by HRI Researchers and Real-World Teleoperators

Alexandra Bejarano, Saad Elbeleidy, Terran Mott, Sebastian Negrete-Alamillo, Luis Angel Armenta, Tom Williams  
2024 33rd IEEE International Conference on Robot and Human Interactive Communication. [Read Paper](#)

### Degrees of Freedom: A Storytelling Game that Supports Technology Literacy about Social Robots

Terran Mott, Mark Higger, Alexandra Bejarano, Tom Williams  
2024 33rd IEEE International Conference on Robot and Human Interactive Communication. [Read Paper](#)

### Prototyping a User Interface for Multi-Robot Speech Control

Alexandra Bejarano, Sebastian Negrete-Alamillo, Terran Mott, Tom Williams  
Late-Breaking Report at HRI 2024. [Read Paper](#)

### A Gender-Controlled Replication Study on Deconstructed Trustee Theory

Alexandra Bejarano, Tom Williams  
Workshop on Robo-Identity at HRI 2024. [Read Paper](#)

### A Preliminary Multi-Level Service Blueprint of Robot End-User Development in Socially Assistive Robots

Saad Elbeleidy, Alexandra Bejarano, Tom Williams  
Workshop on End-User Development at HRI 2024. [Read Paper](#)

### No Name, No Voice, Less Trust: Robot Group Identity Performance, Entitativity, and Trust Distribution

Alexandra Bejarano, Tom Williams  
2023 32nd IEEE International Conference on Robot and Human Interactive Communication. [Read Paper](#)

### Conversations with Identity Performing Robots: Considerations for Algorithms and Interfaces

Alexandra Bejarano, Sebastian Negrete-Alamillo, Tom Williams  
Workshop on Human-Robot Conversational Interaction at HRI 2023. [Read Paper](#)

## **You Had Me at Hello: The Impact of Robot Group Presentation Strategies on Mental Model Formation**

Alexandra Bejarano, Samantha Reig, Priyanka Senapati, Tom Williams  
2022 ACM/IEEE International Conference on Human-Robot Interaction. [Read Paper](#)

## **Robot Co-design Can Help Us Engage Child Stakeholders in Ethical Reflection**

Terran Mott, Alexandra Bejarano, Tom Williams  
2022 ACM/IEEE International Conference on Human-Robot Interaction. [Read Paper](#)

## **Understanding and Influencing User Mental Models of Robot Identity**

Alexandra Bejarano, Tom Williams  
Pioneers Workshop at HRI 2022. [Read Paper](#)

## **Designing for Perceived Robot Empathy for Children in Long-Term Care**

Alexandra Bejarano, Olivia Lomax, Peyton Scherschel, Tom Williams  
2021 International Conference on Social Robotics. [Read Paper](#)

## **Design, Performance, and Perception of Robot Identity**

Ryan Blake Jackson, Alexandra Bejarano, Katie Winkle, Tom Williams  
Workshop on Robo-Identity: Artificial identity and multi-embodiment at HRI 2021. [Read Paper](#)

## **On the Flexibility of Robot Social Identity Performance: Benefits, Ethical Risks and Open Research Questions for HRI**

Katie Winkle, Ryan Blake Jackson, Alexandra Bejarano, Tom Williams  
Workshop on Robo-Identity: Artificial identity and multi-embodiment at HRI 2021. [Read Paper](#)

## **How end-user programmers forage in online repositories? An information foraging perspective**

Sandeep Kuttal, Se Yeon Kim, Carlos Martos, Alexandra Bejarano  
2021 Journal of Computer Languages, Vol. 62. [Read Paper](#)

## **Cognitive Architectural Control for Free-Flying Robots on the Lunar Orbital Platform-Gateway**

Jon Emmanuel Serrano, Shania Jo Runningrabbit, Sayanti Roy, Alexandra Bejarano, Tom Williams  
2020 International Conference on Social Robotics. [Read Paper](#)

## **Identity Performance in Multi-Robot Distributed Systems**

Tom Williams, Daniel Ayers, Camille Kaufman, Jon Serrano, Shania Jo Runningrabbit, Sayanti Roy, Poulomi Pal, Alexandra Bejarano, Ryan Blake Jackson  
2020 International Conference on Social Robotics. [Read Paper](#)

## **Remote pair programming in online CS education: Investigating through a gender lens**

Sandeep Kuttal, Kevin Gerstner, Alexandra Bejarano  
2019 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC). [Read Paper](#)

## **RESEARCH PRESENTATIONS**

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### **CLSTR: Capability-Level System for Tracking Robots**

Presentation and poster at the IEEE Conference on Robotics and Automation, May 2025.

### **Hardships in the Land of Oz: Robot Control Challenges Faced by HRI Researchers and Real-World Teleoperators**

Presentation at the IEEE International Conference on Robot and Human Interactive Communication, Aug 2024.

### **Prototyping a User Interface for Multi-Robot Speech Control**

Poster for HRI Late-Breaking Reports session, Mar 2024.

### **A Gender-Controlled Replication Study on Deconstructed Trustee Theory**

Presentation at the workshop on Robo-Identity at HRI, Mar 2024.

### **Interfaces and Architectural Mechanisms for Multi-Robot Control**

Presentation at Mines CS Department Graduate Seminar, Nov 2023. Poster at the Distributed and Collaborative Intelligent Systems and Technology (DCIST) PI Meeting at the University of Pennsylvania, Jun 2023.

## **No Name, No Voice, Less Trust: Robot Group Identity Performance, Entitativity, and Trust Distribution**

Presentation at the IEEE International Conference on Robot and Human Interactive Communication, Aug 2023. Poster at the Rocky Mountain Celebration of Women in Computing, Sep 2022.

## **Conversations with Identity Performing Robots: Considerations for Algorithms and Interfaces**

Presentation at the workshop on Human-Robot Conversational Interaction at HRI, Mar 2023.

## **You Had Me at Hello: The Impact of Robot Group Presentation Strategies on Mental Model Formation**

Presentation at the ACM/IEEE International Conference on Human-Robot Interaction, Mar 2022.

## **Understanding and Influencing User Mental Models of Robot Identity**

Presentation at the HRI Pioneers Workshop, Mar 2022.

## **Perceived Robot Empathy within Social Robot Design for Hospitalized Children**

Poster for Computing-Mines Affiliates Partnership Program, Colorado School of Mines, 2020.

## **WiFi Leaf Detection System**

Poster at the OK-LSAMP Research Symposium, 2019. Poster at the Summer Undergraduate Research Symposium (SURS), University of Notre Dame, 2019.

## **Counterfactuals in a Multiagent Domain**

Presentation at the National Conference on Undergraduate Research, 2019. Poster at the OK-LSAMP Research Symposium, 2018.

## **Robot Design for Human Interaction**

Presentation at the National Conference on Undergraduate Research, Edmond, Oklahoma 2018. Presentation at the OK-LSAMP Research Symposium, 2017.