Alexandra Bejarano

abejarano@mines.edu | linkedIn/alexandra-bejarano-04474b11a | abejarano.com

SKILLS | Java, Python, Javascript, C++, 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 | Expected 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; Digital Systems Principles; Database Systems; Web Apps Development; Interaction Design

RESEARCH EXPERIENCE

Colorado School of Mines | Research Assistant, MIRRORLab   Golden, CO | Aug 2020 Present
> **Advised by Dr. Tom Williams.** *Research on 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

Mines Graduate Student Government | Director of Media and Marketing   2023-2024

Conferences & Journals | Paper Reviewer   Present
> *ACM CHI Conference on Human Factors in Computing Systems - 2024*
> *ACM Transactions on Human-Robot Interaction - 2022, 2024*
> *ACM/IEEE International Conference on Human-Robot Interaction - 2022, 2024*
> *IEEE International Conference on Robot & Human Interactive Communication - 2023, 2024*
> *International Journal of Social Robotics - 2022, 2024*
> *ICSR Workshop HRI for Space Robotics - 2021*

HRI Conference | Workshop Organizer   2022-Present
   2024 and 2025 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

Trefny Graduate Teaching Fellowship | Fellow   Aug 2023 - May 2024

Roboethics Competition at ICRA 2023 | 1st Place Winning Team   Jul 2023
   "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
Under review, 2025 IEEE Conference on Robotics and Automation.

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 33nd 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 33nd 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

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. Oral presentation at the OK-LSAMP Research Symposium, 2017.