Bengisu Cagiltay

PhD Student · Computer Sciences

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Research Interests

Qualitative researcher focusing on designing social companion robots *for children and families.*
Interdisciplinary research in Human-Computer Interaction(HCI), Human-Robot Interaction (HRI), Child-Robot Interaction.

Education

University of Wisconsin-Madison *Madison, Wisconsin*
PhD Computer Sciences, Minor: Human Development and Family Studies *Fall 2020 – present*
- Advisor: Dr. Bilge Mutlu

Middle East Technical University *Ankara, Turkey*
MS Cognitive Science *2018 – 2020*
- Advisor: Dr. Cengiz Acarturk
- *"An investigation of interactions with conversational violations: Insights from visual perception and Gricean Maxim violations"*

Bilkent University *Ankara, Turkey*
BS Computer Science *2014 – 2018*

Research Experience

Graduate Research Assistant – People and Robots Laboratory *Madison, WI*
Advisor: Dr. Bilge Mutlu *Jun. 2019 – Ongoing*
- *Designing Learning Companion Robots for Children*
  Conducting qualitative and quantitative research in human-robot interaction and designing educational robots for children.
  Laboratory Website: peopleandrobots.wisc.edu

Meta (Formerly Facebook) – Privacy Org *Menlo Park, CA*
Qualitative UX Researcher Intern *May. 2022 – Sep. 2022*
- Project: Privacy Education for Teens, Privacy Regulatory Readiness, UX Research Team

University of Eastern Finland – Dept. of Special Education *Joensuu, Finland*
Advisor: Dr. Eija Karna *Sep. 2019 – Sep. 2022*
- *PEICAS - Peer Interactions involving Children with Autism Spectrum disorder in inclusive classrooms*
  Collaborated on an interdisciplinary eye-tracking study to understand social participation patterns of children with autism.
  Project Website: peicas.fi

Middle East Technical University – Dept. of Cognitive Science *Ankara, Turkey*
Advisor: Dr. Cengiz Acarturk *Feb. 2018 – Nov. 2020*
- *Visual Cognition Research using Eye-Tracking Technologies*
  Conducted research in the domain of visual cognition and human-computer interactions using eye-tracking technologies. Proficiency in Tobii and SMI eye-tracking devices and software.

Nielsen Data Analytics *Istanbul, Turkey*
Freelance Researcher *2019*
- *Neuro-Marketing Research*
  Conducted data collection and analysis of a multi-modal neuro-marketing study using eye tracking (Tobii Pro Glasses 2) and functional near-infrared spectroscopy, i.e. fNIRS.

University of Alabama – Dept. of Educational Neuroscience and Computer Sciences *Tuscaloosa, AL*

Advisors: Dr. Firat Soylu and Dr. Jeff Gray *Jul. 2017 – Sep. 2017*

- **Embodied Learning Design and Educational Neuroscience Lab** *Advisor: Dr. Fırat Soylu*
  Supported ongoing research in numerical cognition, number gestures, and finger counting in mathematical development, using neuroimaging techniques, i.e. EEG.
  Laboratory Website: elden.ua.edu
- **Computer Science Department** *Advisor: Dr. Jeff Gray*
  Mentored in a summer programming class for high-school students.

Publications

** equal contribution; + mentored graduate student*

Published

Cagiltay, B., Mutlu, B., & Kerr, M. (2023). Family Theories in Child-Robot Interactions: Understanding Families as a Whole for Child-Robot Interaction Design. *In Interaction Design and Children (IDC 23)* ACM.

Cagiltay, B., Mutlu, B., & Michaelis, J. E. (2023). "My Unconditional Homework Buddy:" Exploring Children's Preferences for a Homework Companion Robot. *In Interaction Design and Children (IDC 23)* ACM.

Cagiltay, B. (2023, April). Designing for In-Home Long-Term Family-Robot Interactions: Family Preferences, Connection-Making, and Privacy. *In Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems* ACM.

Praveena, P.*, **Cagiltay, B.***, Gleicher, M., & Mutlu, B. (2023, April). Exploring the Use of Collaborative Robots in Cinematography. *In Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems* ACM.

Cagiltay, B.*, Michaelis, J. E.*, Ibtasar, R., & Mutlu, B. (2023, March). "Off Script:" Design Opportunities Emerging from Long-Term Social Robot Interactions In-the-Wild. *In Proceedings of the 2023 ACM/IEEE International Conference on HRI*.

Lee, C. P.+, **Cagiltay, B.**, Sullivan, D., & Mutlu, B. (2023, March). Demonstrating the Potential of Interactive Product Packaging for Enriching Human-Robot Interaction. *In Companion of the 2023 ACM/IEEE International Conference on HRI*

Cagiltay, B., Michaelis, J., Sebo, S., and Mutlu, B. 2022. Exploring Children's Preferences for Taking Care of a Social Robot. *In Interaction Design and Children (IDC 22).* ACM. **Best Short Paper Award**

Cagiltay, B., White, N., Ibtasar, R., Mutlu, B., & Michaelis, J. (2022, July) Understanding Factors that Shape Children's Long Term Engagement with an In-Home Learning Companion Robot. *In Interaction Design and Children (IDC 22)*ACM.

Lee, C.+, **Cagiltay, B.**, & Mutlu, B. (2022, May) The Unboxing Experience: Exploration and Design of Initial Interactions Between Children and Social Robots. In *CHI Conference on Human Factors in Computing Systems (CHI'22).* Article 151, 1–14. ACM. **Best Paper Honorable Mention Award**

Tang, B., Chandrasekaran, V., **Cagiltay, B.**, Sullivan, D., Fawaz, K., Mutlu, B. (HRI 2022) Confidant: A Privacy Controller for Social Robots. In *Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction (HRI'22)*. IEEE

Suero Montero, C., **Cagiltay, B.**, Dindar, K., Kärnä, E., Kilpiä, A., Pihlainen, K., Kämäräinen, A. (2022) Analysing Inclusive Groups' Peer Interactions Using Mobile Eye Tracking in Educational Context, In *EDULEARN22 Proceedings*

Suero Montero, C., Kilpia, A., Kamarainen, A., **Cagiltay, B.**, Karna, E., Cagiltay, K., Pihlainen, K., & Karasu, N. (2022). Mobile Eye Tracking Research in Inclusive Classrooms: Children's Experiences. *In 2022 International Conference on Advanced Learning Technologies (ICALT)* IEEE

Cagiltay, B.*, White, N. T.*, Michaelis, J. E., & Mutlu, B. (2021, June). Designing Emotionally Expressive Social Commentary to Facilitate Child-Robot Interaction. In *Interaction Design and Children* (pp. 314-325). ACM.

Ho, H. R., **Cagiltay, B.**, White, N. T., Hubbard, E. M., & Mutlu, B. (2021, June). RoboMath: Designing a Learning Companion Robot to Support Children's Numerical Skills. In *Interaction Design and Children*. (pp. 283-293). ACM.

Zhao, F., White, N., **Cagiltay, B.**, Niedenthal, P., Michaelis, J. E., & Mutlu, B. (2021). Designing Emotional Expressions for a Reading Companion Robot. In *Society for Affective Science Conference (SAS 2021)*.

Cagiltay, B., Ho, H. R., Michaelis, J. E., & Mutlu, B. (2020, June). Investigating family perceptions and design preferences for an in-home robot. In *Proceedings of the interaction design and children conference* (pp. 229-242). ACM.

Cagiltay, B. (2020). An investigation of interactions with conversational violations: Insights from visual perception and Gricean Maxim violations (Master's thesis, Middle East Technical University).

In Prep

Cagiltay, B., Lee, C., Ernst, J., & Mutlu, B. (In Prep) An Ethnography Study of Urban Delivery Robots on University Campus

Mentoring

2022–Cur.	**Amy Koike**, PhD Student, Computer Sciences, University of Wisconsin-Madison	
2021–2022	**Christine Lee**, PhD Student, Computer Sciences, University of Wisconsin-Madison	
2021–2023	**Batuhan Bayraktar**, Honors Thesis, Computer Sciences, University of Wisconsin-Madison	
2023	**Ellie Smith**, Undergraduate, Computer Sciences, University of Wisconsin-Madison	
2022–2023	**Jingyu Chen**, NSF REU, Computer Sciences, University of Wisconsin-Madison	
2022	**Lisette Lurker**, NSF REU, Computer Sciences, University of Wisconsin-Madison	

Awards, Fellowships, & Grants

2023	**CHI 2023 Doctoral Consortium Award**, CHI Conference of Human Factors in Computing	*$ 1,800*

Professional Development, Service & Outreach

Chaired Workshop, IDC 2023 – "From Child-Centered to Family-Centered Interaction Design" Website: bit.ly/idc23fcid

Doctoral Consortium Attendee, CHI 2023 – Attended among 20 fellow doctoral students, accepted out of 115 submissions.

Morgridge Entrepreneurial Bootcamp, Attended, June 2023, University of Wisconsin-Madison

Digital Media Workshop (Demo) Cognitive Developmental Society 2022. A Reading Companion Robot for Children.

Service and Outreach

2023	**Frontiers Journal, Special Research Topic**, Topic Coordinator. Title: "From Child-Centered to Family-Centered Design for New Technology"	*Madison, WI*
2023, May	**People and Robots Lab**, Hiring Manager, Editor and Illustrator Positions	*Madison, WI*
2023, Jul	**Grandparents University**, Teaching Assistant	*Madison, WI*
2023, Spr.	**Monona Grove Liberal Arts Charter School**, LEGO Fun Camp Mentor	*Madison, WI*
2020, Fall	**4H Wisconsin**, Junkdrawer Robotics Mentor	*Oneida, WI*
2017–Cur.	**First Lego League Volunteer**, Referee and Robot Design Judge	*Turkey & USA*
May 2019	**World Robot Olympiad**, Referee	*Turkey*
2011	**LEGO Robot Education Mentor**, Mentored in STEM summer camps to teach underprivileged middle school students robotics and science. (1) Turkish Education Volunteers Foundation (TEGV) LEGO Robot Camp Mentor, *Ankara, Turkey* (2) Turkish National Science Foundation (TUBITAK) Science Camp Mentor, *Hatay, Turkey* (3) Atılım University Fun Science Camp Mentor, *Ankara, Turkey*	*Turkey*

Peer Review

– ACM/SIG Conferences CHI, HRI, DIS, IDC, HAI
Special Recognition for Outstanding Reviews Two (2) in Human Factors in Computing Systems (CHI) Papers and Pictorials, One (1) in Designing Interactive Systems (DIS) Papers and Pictorials
– International Journal of Social Robotics
– Interaction Studies Journal
– Frontiers in Robotics and AI

Grants Contributed to

NSF Award # 1906854, 2247381, 2202802

Competitions and Awards

First place award in Computer Science projects 2018
"University Students Project Competition in Priority Areas"
Turkish National Science Foundation (Program: 2242)
Project Title: "MEDIPO: Medical Image Processing Online"

Second place award in Computer Science projects 2012
"National High School Research Projects Contest"
Turkish National Science Foundation (Program: 2204)
Project Title: "Teaching Difficult History Lessons via Virtual Reality"

Third place award for designing a concept solution for sustainability problem for food waste 2012
International Concept Project Competition (ICPC)
Middle East Technical University, Northen Cyprus

First place award for "Best Robot Performance" 2010
First Lego League robotics tournament
Ankara, Turkey

Research Methods and Skills

Expertise in: Lab studies, field studies, remote studies, semi-structured interviews, participatory design workshops, ethnography, surveys, usability testing, qualitative coding, thematic analysis, interaction logs analysis, eye-tracking studies, crowdsourcing (e.g., MTurk).

Tools: Qualtrics (Survey Design), NVivo (Qualitative Analysis), Tobii Pro Lab (Eye Tracking).