Bengisu Cagiltay

PhD Student · Computer Sciences

University of Wisconsin-Madison, 1210 W Dayton St, Madison, WI 53706

bengisu@cs.wisc.edu | bengisucagiltay.github.io | bengisucagiltay | @bengisucagiltay

Research Interests

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

Education

University of Wisconsin-Madison — *Madison-Wisconsin*

PhD Computer Sciences — *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*

Professional Experience

2020–Cur.	**Graduate Research Assistant**, Computer Sciences, University of Wisconsin-Madison
2022	**Qualitative UX Research Intern**, Meta (Formerly Facebook) Privacy Org
2019–2020	**Graduate Research Intern**, Dept. of Computer Sciences, University of Wisconsin-Madison
2018–2020	**Graduate Research Assistant**, Dept. of Cognitive Sciences, Middle East Technical University
2019	**Freelance Researcher**, Nielsen Data Analytics, Istanbul, Turkey
Aug. 2016	**Software Engineering Intern**, Cybersoft Informatics Technologies Ltd., Ankara, Turkey

Publications

** equal contribution; + mentored graduate student*

Published

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

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

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*

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*

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)

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) (pp. 279-283). IEEE Computer Society.

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

Awards, Fellowships, & Grants

2023	**CHI 2023 Doctoral Consortium Award**, CHI Conference of Human Factors in Computing	*$ 1,800*
	Two (2) Special Recognition for Outstanding Reviews, Human Factors in Computing Systems (CHI) Papers and Pictorials	
2022	**Special Recognition for Outstanding Reviews**, Designing Interactive Systems (DIS) Papers and Pictorials	
Spring 2018	**Computer Science High Honors List**, Bilkent University	
Spring 2014	**Computer Science Honors List**, Bilkent University	

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**, Undergraduate, Computer Sciences, University of Wisconsin-Madison
2023	**Ellie Smith**, Undergraduate, Computer Sciences, University of Wisconsin-Madison
2022–2023	**Jingyu Chen**, Undergraduate, Computer Sciences, University of Wisconsin-Madison
2022	**Lisette Lurker**, Undergraduate, Computer Sciences, University of Wisconsin-Madison

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 the field of 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 *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.

Outreach & Professional Development

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, Spr.	**People and Robots Lab**, Hiring Manager, Editor and Illustrator Positions	*Madison, WI*
2023, Sum.	**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*

Development

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

Morgridge Entrepreneurship Bootcamp, Accepted to Attend June 2023, University of Wisconsin-Madison

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

Peer Review

ACM/SIG Conferences CHI, HRI, DIS, IDC
International Journal of Social Robotics
Interaction Studies
Frontiers in Robotics and AI

Grants Contributed To

NSF Award # 1906854, 1651129, 2202803

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).

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

Professional Memberships

ACM