Bengisu Cagiltay

PHD CANDIDATE · COMPUTER SCIENCES

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

✉ bengisu@cs.wisc.edu | 🏠 bengisucagiltay.com | in bengisucagiltay | 🐦 @bengisucagiltay

Research Interests

I *investigate design needs* of users and *develop design requirements* for social robots situated in everyday life of individuals and groups. Through qualitative and design-based research, I *study user interactions* and explore how these technologies can be used to improve peoples' everyday lives, facilitate routines, and support connections. I take an interdisciplinary lens, in the intersection of computer science, cognitive science, social robotics, design, and human ecology.

Education

University of Wisconsin-Madison   *Madison, Wisconsin*

PHD COMPUTER SCIENCES, MINOR: HUMAN DEVELOPMENT AND FAMILY STUDIES   *Sep 2020 – May 2025 (Expected)*

- **Advisor**: Dr. Bilge Mutlu
- **PhD Thesis Title**: *"Designing social robots for everyday family life"*
- **Thesis Committee**: Bilge Mutlu, Yea-Seul Kim, Heather Kirkorian, Kassem Fawaz, Selma Šabanović

Middle East Technical University   *Ankara, Turkey*

MS COGNITIVE SCIENCE   *2018 – 2020*

- **Advisor**: Dr. Cengiz Acartürk
- **Masters Thesis Title**: *"An investigation of interactions with conversational violations: Insights from visual perception and Gricean Maxim violations"*
- **Thesis Committee**: Murat Perit Çakır, Cengiz Acartürk, Erol Özçelik

Bilkent University   *Ankara, Turkey*

BS COMPUTER SCIENCE   *2014 – 2018*

Publications
* equal contribution

PEER REVIEWED CONFERENCE PROCEEDINGS

West, J., **Cagiltay, B.**, Zhang, S., Li, J., Fawaz, K., & Banerjee, S. (2025). "Impressively Scary:" Exploring User Perceptions and Reactions to Unraveling Machine Learning Models in Social Media Applications. In ACM *Human Factors in Computing Systems (CHI 25)*

Xu, M. F., **Cagiltay, B.**, Michaelis, J., Sebo, S., & Mutlu, B. (2024). Robots in Family Routines: Development of and Initial Insights from the Family-Robot Routines Inventory. In *IEEE International Conference on Robot and Human Interactive Communication* (RO-MAN 24)

Koike, A.*, **Cagiltay, B.*** & Mutlu, B. (2024). Tangible Scenography as a Holistic Design Method for Human-Robot Interaction. In *Designing Interactive Systems Conference (DIS 24)*. 25% acceptance rate.

Cagiltay, B., Mutlu, B., (2024). "Toward Family-Robot Interactions: A Family-Centered Framework in HRI" In ACM/IEEE *Human-Robot Interaction (HRI 24)*. 24.7% acceptance rate.

Cagiltay, B., Mutlu, B., & Michaelis, J. E. (2023). "My Unconditional Homework Buddy:" Exploring Children's Preferences for a Homework Companion Robot. In ACM *Interaction Design and Children (IDC 23)* 29% acceptance rate.

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 ACM/IEEE *Human-Robot Interaction (HRI 23)*. 25.2% acceptance rate.

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 ACM *Interaction Design and Children (IDC 22)* 35% acceptance rate.

Lee, C., **Cagiltay, B.**, & Mutlu, B. (2022, May) The Unboxing Experience: Exploration and Design of Initial Interactions Between Children and Social Robots. In ACM *Human Factors in Computing Systems (CHI 22).* **Best Paper Honorable Mention Award** 24.6% acceptance rate.

Tang, B., Chandrasekaran, V., **Cagiltay, B.**, Sullivan, D., Fawaz, K., Mutlu, B. (HRI 2022) Confidant: A Privacy Controller for Social Robots. In ACM/IEEE *Human-Robot Interaction (HRI 22).* 24.36% acceptance rate.

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. 23.3% acceptance rate.

Cagiltay, B.*, White, N. T.*, Michaelis, J. E., & Mutlu, B. (2021, June). Designing Emotionally Expressive Social Commentary to Facilitate Child-Robot Interaction. In ACM *Interaction Design and Children (IDC 21* 36% acceptance rate.

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 ACM *Interaction Design and Children (IDC 21).* 36% acceptance rate.

Cagiltay, B., Ho, H. R., Michaelis, J. E., & Mutlu, B. (2020, June). Investigating family perceptions and design preferences for an in-home robot. In ACM *Interaction Design and Children (IDC 20)* 32% acceptance rate.

Peer Reviewed Short Papers and Workshops

Levinson, L., Yadollahi, E., **Cagiltay, B.**, Suneesh, S., Charisi, V., Colvert, A., Pothong, K., & Šabanović, S. (2025). Designing Playful and Ethical Child-AI Systems. In ACM *Interaction Design and Children (IDC 25)* **Workshop**

Stefanidi, E., Silva, L. M., Cagiltay, B., Eriksson, E., Woźniak, P. W., & Niess, J. (2025). Towards a Research Agenda for Including Children and their Care Ecosystems in HCI. In ACM *Interaction Design and Children (IDC 25)* **Workshop**

He, X., Xu, M. F., **Cagiltay, B.**, & Mutlu, B. (2025, March). Developing Robot Prototypes to Explore Robot-Facilitated Family Routines. In *ACM/IEEE International Conference on Human-Robot Interaction* **Late Breaking Report**

Cagiltay, B., Ho, H. R., Sun, K., Su, Z., Wu, Y., Richards, O.K., Jin, Q., Yu, J., Fails, J.A., Yip, J. & Forlizzi, J. (2024, May). Methods for Family-Centered Design: Bridging the Gap Between Research and Practice. In *ACM CHI Conference on Human Factors in Computing Systems (CHI 24)* **Chaired Workshop**

Cagiltay, B., & Mutlu, B. (2024, March). Supporting Long-Term HRI through Shared Family Routines. In ACM/IEEE *Human-Robot Interaction (HRI 24)* **Pioneers Workshop**

Cagiltay, B., Mutlu, B., & Kerr, M. (2023). Family Theories in Child-Robot Interactions: Understanding Families as a Whole for Child-Robot Interaction Design. In ACM *Interaction Design and Children (IDC 23)* **Short Paper** 29% acceptance rate.

Cagiltay, B., Ibtasar, R., Michaelis, J. E., Sebo, S., & Mutlu, B. (2023, June). From Child-Centered to Family-Centered Interaction Design. In ACM *Interaction Design and Children (IDC 23)* **Chaired Workshop**

Praveena, P.*, **Cagiltay, B.***, Gleicher, M., & Mutlu, B. (2023, April). Exploring the Use of Collaborative Robots in Cinematography. In *ACM CHI Conference on Human Factors in Computing Systems (CHI 23).* **Late Breaking Work**

Lee, C., **Cagiltay, B.**, Sullivan, D., & Mutlu, B. (2023, March). Demonstrating the Potential of Interactive Product Packaging for Enriching Human-Robot Interaction. In ACM/IEEE *Human-Robot Interaction (HRI 23).* **Demo**

Cagiltay, B., Michaelis, J., Sebo, S., and Mutlu, B. 2022. Exploring Children's Preferences for Taking Care of a Social Robot. In ACM *Interaction Design and Children (IDC 22)* **Best Short Paper Award** 35% acceptance rate.

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).* **Extended Abstract**

Peer Reviewed Journal Articles

Zhang, S., **Cagiltay, B.,** Li, J., Kirkorian, H., Mutlu, B., and Fawaz, K. (Accepted, In Print, 2025) A Qualitative Exploration of Families' Uses and Gratifications with ChatGPT *Family Relations*.

Cagiltay, B., Senft, E., and Mutlu, B. (2024) What Can Robots Do For You?. *Frontiers for Young Minds.* doi:10.3389/frym. 2024.1267614

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

MASTERS THESIS

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)*

Research Experience

Visiting PhD student – *Augmented Experiences Lab (AUX Lab)* — *Santa Clara, USA*
HOST: DR. NORMAN SU, UNIVERSITY OF CALIFORNIA SANTA CRUZ (UCSC) — *Aug 2023 – Ongoing*

Graduate Research Assistant – *People and Robots Laboratory* — *Madison, WI*
ADVISOR: DR. BILGE MUTLU, UNIVERSITY OF WISCONSIN-MADISON — *Jun 2019 – Ongoing*
- *Designing Social Robots for Children and Families*
  Conducting mixed methods research in human-robot interaction and designing educational robots for children.
  Laboratory Website: peopleandrobots.wisc.edu

Qualitative UX Researcher Intern – *Privacy Org* — *Menlo Park, CA*
META (FORMERLY FACEBOOK) — *May 2022 – Sep 2022*
- *Privacy Regulatory Readiness, UX Research Team*
  Project: Privacy Education for Teens

Project Assistant – *Dept. of Special Education* — *Joensuu, Finland*
ADVISOR: DR. EIJA KARNA, UNIVERSITY OF EASTERN FINLAND — *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

Project Assistant – *Dept. of Cognitive Science* — *Ankara, Turkey*
ADVISOR: DR. CENGIZ ACARTURK, MIDDLE EAST TECHNICAL UNIVERSITY — *Feb 2018 – Nov 2020*
- *Visual Cognition Research using Eye-Tracking Technologies*
  Conducted research in visual cognition and human-computer interaction using eye-tracking technologies.
  Proficiency in Tobii and SMI eye-tracking devices and software.

Freelance Researcher - *Neuro-Marketing Research* — *Istanbul, Turkey*
NIELSEN DATA ANALYTICS — *2019*
- *Neuro-Marketing Research*
  Collected and analyzed data for a multi-modal neuro-marketing study using eye tracking and fNIRS.

Visiting Undergraduate Research Intern, *Dept. of Educational Neuroscience and Dept. of Computer Sciences* — *Tuscaloosa, AL*
ADVISORS: DR. FIRAT SOYLU AND DR. JEFF GRAY, UNIVERSITY OF ALABAMA TUSCALOOSA — *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 high-school students in a summer programming class.

Mentoring Experience

2024-Curr	**Michael Xu**, PhD Student, Computer Sciences, UW-Madison
2021–2023	**Batuhan Bayraktar**, Bachelors Honors Thesis, Computer Sciences, UW-Madison
2022	**Jingyu Chen, Lisette Lurker**, NSF REU, Computer Sciences, UW-Madison

Awards and Recognition

2024	**HRI 2024 Pioneers Workshop Travel Award**, HRI Conference of Human Robot Interaction	*$ 1,200*
2024	**CRA Grad Cohort for Women Workshop Travel Award**, Computing Research Association	
2023	**CHI 2023 Doctoral Consortium Award**, CHI Conference of Human Factors in Computing	*$ 1,800*
	Special Recognition for Outstanding Reviews, CHI (5), DIS (1), HRI (1)	

Invited Talks

July 11, 2024. *Chasing Opportunities: My journey to Human-Robot Interaction Research*. Invited talk: University of Michigan-Flint, NSF REU Seminar.

July 3, 2024. *Designing and Studying Social Robots For Families: Challenges and Opportunities*. Invited talk: MIRROR Lab Summer Speaker Series.

April 16, 2024. *Chasing Opportunities: My PhD Journey (Title translated from Turkish)*. Invited talk: METU Cognitive Science Society. `https://youtu.be/m55ETZEXlKI`

Jan 11, 2024. *Robots and Routines: Exploring the Future of Social Robots in Family Life*. Invited talk: Talking Robotics Webinar. `youtu.be/m0yFQOXCDMY`

Nov 17, 2023. *Robots and Routines: Exploring the Future of Social Robots in Family Life*. Invited talk: CS Colloquium - Rising Stars in HCI, Iowa City, Iowa. `cs.uiowa.edu/event/130806/0`

Professional Development

Workshop, *Networking Chair*, HRI 2025, "HRI Pioneers Workshop" Website: hripioneers.org/

Workshop, *General Chair*, CHI 2024, "Methods for Family-Centered Design" Website: bit.ly/fcd-chi2024

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

Special Research Topic, *Coordinator*, Frontiers in Robotics & AI 2023, Title: "From Child-Centered to Family-Centered Design for New Technology"

First Annual Midwest HRI Meetup, *Student Co-Organizer*, 2023, University of Wisconsin-Madison, University of Chicago (Host), University of Illinois at Chicago

Grandparents University, *Instructor*, July 2023, University of Wisconsin-Madison

Morgridge Entrepreneurial Bootcamp, *Attendee*, June 2023, University of Wisconsin-Madison

Workshop, *Demonstrator*, Cognitive Developmental Society 2022. "A Reading Companion Robot for Children"

SERVICE AND OUTREACH

2023, Oct	**ACM CSCW 2023**, Student Volunteer	*Minneapolis*
2023, May	**People and Robots Lab**, Hiring Manager, Editor and Illustrator Positions	*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 several STEM summer camps to teach underprivileged middle school students robotics and science.	*Turkey*

PEER REVIEW

– ACM/SIG/IEEE Conferences: CHI, HRI, DIS, IDC, CSCW, NordiCHI, HAI, RSS
– Journals: International Journal of Social Robotics, International Journal of Child Computer Interaction, Interaction Studies Journal, Frontiers in Robotics and AI