

Christine P. Lee | Curriculum Vitae, September 2026

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Research Interests

My research lies at the intersection of human-computer interaction, human-centered AI, and robotics. I design and study interactive systems that help people express what should guide AI systems acting on their behalf, assess whether delegated work reflects their intentions, and shape how agents respond to new situations and accumulated experience. My work combines empirical HCI research, large language models, and formal verification of generated plans against user-defined constraints, with applications in AI planning, personalization, and household robotics. I am particularly interested in how persistent context and memory can support understandable and adaptable behavior in long-lived AI agents.

Education

- 2022– PHD, Computer Sciences, University of Wisconsin–Madison, expected Spring 2027
Advisor: Dr. Bilge Mutlu. *Doctoral Minor:* Communication Arts
Committee: Dr. Bilge Mutlu, Dr. Min Kyung Lee, Dr. Jodi Forlizzi, Dr. Aws Albarghouthi, Dr. Sharon Li
- 2020–2022 MS, Computer Sciences, University of Wisconsin–Madison
Advisor: Dr. Bilge Mutlu
- 2015–2019 BS, Computer Sciences, *Summa Cum Laude*, Sejong University, Seoul, South Korea

Research Experience

- 2020– *Research Assistant*, University of Wisconsin–Madison, Madison, WI
Mentor: Dr. Bilge Mutlu
- 2026 *Robotics Applied Scientist Co-op*, Amazon Personal Robotics Group (Fauna Robotics), Sunnyvale, CA
Project: Character-based memory architecture for household robots
Mentors: Dr. Hae Won Park, Hani Abdo, and Xiaoxu Liu
- 2020 *Research Intern*, Seoul National University Hospital Biomedical Research Institute, Seoul, South Korea, January to July 2020
Mentor: Dr. Taehoon Ko
- 2019–2020 *Undergraduate Researcher*, CVPR Lab, Sejong University, Seoul, South Korea
Advisor: Dr. Hyun-Joon Moon

Honors & Awards

FELLOWSHIPS, AWARDS & DISTINCTIONS

- 2026 Selected Participant, Future Leaders of AI Doctoral Consortium, ACM AI Leadership Summit 2026 (53 selected out of 142)
Position paper: “Designing Responsible AI Workflows: Preserving Control and Supporting Alignment”
Special Recognition for Outstanding Reviews, ACM CHI Conference on Human Factors in Computing Systems (CHI 2026)
- 2025 Cisco Distinguished Graduate Fellowship, one year of full PhD funding

- 2025– NSF Research Traineeship Program “INTEGRATE” Fellowship, Spring 2025 to present
 Special Recognition for Outstanding Reviews, ACM CHI Conference on Human Factors in Computing Systems (CHI 2025)
 Special Recognition for Outstanding Reviews, ACM Symposium on User Interface Software and Technology (UIST 2025)
- 2024 Doctoral Consortium, ACM CHI Conference on Human Factors in Computing Systems (CHI 2024), with \$1,700 award
- 2021 Summer Research Assistant Award, UW–Madison Computer Sciences Department
 Chosen as one of 15 students in the department based on faculty nomination

PAPER AWARDS

- 2025 Honorable Mention (Top 251 in 5020), ACM CHI Conference on Human Factors in Computing Systems (CHI 2025)
 Kim, Sato, White, Ho, **Lee**, Hwang, & Mutlu: Bridging Generations using AI-Supported Co-Creative Activities
- 2022 Honorable Mention (Top 131 in 2597), ACM CHI Conference on Human Factors in Computing Systems (CHI 2022)
Lee, Cagiltay, & Mutlu: The Unboxing Experience: Exploration and Design of Initial Interactions Between Children and Social Robots

Publications

* indicates equal contribution. 🏆 indicates a paper award (see Paper Awards).

IN PRESS (1)

Lee, C. P., Lee, M. K.*, & Mutlu, B.* From Tool to Agent: How Worker Needs Reorganize Across the Agentic Roles of Workplace AI. *Proceedings of the 14th International Conference on Human-Agent Interaction (HAI '26)*.

JOURNAL ARTICLES (2)

- 2026 Hwang, Y., **Lee, C. P.**, Porfirio, D., Hiatt, L. M., & Mutlu, B. Formal Methods in Robot End-User Development: Progress, Gaps, and Opportunities. *Foundations and Trends in Robotics*, 13(3), 273–349.
- 2020 Kim, H. K., Choi, S. W., Bae, Y. S., Choi, J., Kwon, H., **Lee, C. P.**, Lee, H.-Y., & Ko, T. [MARIE: A Context-Aware Term Mapping with String Matching and Embedding Vectors](#). *Applied Sciences*, 10(21), 7831.

FULL-LENGTH CONFERENCE PAPERS (8, PLUS 2 UNDER REVIEW)

- Lee, C. P.**, Pan, E., Porfirio, D., & Mutlu, B. PromptPath: Bringing Persistent User Context into LLM Prompt Formulation. *Under review*.
- Lee, C. P.**, Sullivan, D., Wang, X. J., & Mutlu, B. A Communication Initialization Profile (CIP) for Cold-Start LLM Personalization. *Under review*.
- 2026 Wang, X. J., **Lee, C. P.**, & Mutlu, B. [LearnMate²: Design and Evaluation of an LLM-powered Personalized and Adaptive Support System for Online Learning](#). *Proceedings of the 2026 Designing Interactive Systems Conference (DIS '26)*.
- Kim, Y., **Lee, C. P.**, & Mutlu, B. [Speaking with Screens: Design Space and Guidelines for Informational Robot Screens](#). *Proceedings of the 21st ACM/IEEE International Conference on Human-Robot Interaction (HRI '26)*.
- 2025 **Lee, C. P.**, Porfirio, D., Wang, X. J., Zhao, K., & Mutlu, B. [VeriPlan: Integrating Formal Verification and LLMs into End-User Planning](#). *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*.
- 🏆 Kim, C. Y., Sato, A. J., White, N. T., Ho, H.-R., **Lee, C. P.**, Hwang, Y., & Mutlu, B. [Bridging Generations using AI-Supported Co-Creative Activities](#). *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*.
- 2024 **Lee, C. P.**, Lee, M. K.*, & Mutlu, B.* [The AI-DEC: A Card-based Design Method for User-centered AI Explanations](#). *Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24)*.

Lee, C. P., Praveena, P., & Mutlu, B. **REX: Designing User-centered Repair and Explanations to Address Robot Failures**. *Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24)*.

Kim, C. Y.*, **Lee, C. P.***, & Mutlu, B. **Understanding Large-Language Model (LLM)-powered Human-Robot Interaction**. *Proceedings of the 2024 ACM/IEEE International Conference on Human-Robot Interaction (HRI '24)*.

2022 🏆 **Lee, C. P.**, Cagiltay, B., & Mutlu, B. **The Unboxing Experience: Exploration and Design of Initial Interactions Between Children and Social Robots**. *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22)*.

SHORT PAPERS & EXTENDED ABSTRACTS (4)

2025 **Lee, C. P.***, Choi, J.*, & Mutlu, B. **MAP: Multi-user Personalization with Collaborative LLM-powered Agents**. *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25)*.

Wang, X. J., **Lee, C. P.**, & Mutlu, B. **LearnMate: Enhancing Online Education with LLM-Powered Personalized Learning Plans and Support**. *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25)*.

2024 **Lee, C. P.** **Design, Development, and Deployment of Context-adaptive AI Systems for Enhanced User Adoption**. *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '24)*.

2023 **Lee, C. P.**, Cagiltay, B., Sullivan, D., & Mutlu, B. **Demonstrating the Potential of Interactive Product Packaging for Enriching Human-Robot Interaction**. *Companion of the 2023 ACM/IEEE International Conference on Human-Robot Interaction (HRI '23)*.

PREPRINTS (1)

2026 **Lee, C. P.**, Wang, X. J., Albarghouthi, A., Porfirio, D., & Mutlu, B. **U-Define: Designing User Workflows for Hard and Soft Constraints in LLM-Based Planning**. *arXiv preprint*, arXiv:2605.02765.

OTHER PUBLICATIONS (2)

2019 Nam, J., **Lee, C. P.**, Patankar, A. A., Wang, H., Li, Y., & Moon, H. Object Classification for Domestic Waste based on Convolutional Neural Networks. *Proceedings of the Korean Institute of Broadcast and Media Engineers Fall Conference*.

2018 Jung, J. Y., **Lee, C. P.**, Kim, J. H., Kim, S. I., Kim, J. I., Kong, H. S., Lee, Y. B., Lee, Y. L., & Kang, J. W. Increasing Video Compression Efficiency using Residual Data Distribution and Transform. *Proceedings of the WISET Junior Science & Technology Research Reports*, Vol. 1, pp. 350–354.

Talks

CONFERENCE PRESENTATIONS

2025 ACM CHI Conference on Human Factors in Computing Systems (CHI 2025), Yokohama, Japan
“VeriPlan: Integrating Formal Verification and LLMs into End-User Planning”

2024 ACM Designing Interactive Systems Conference (DIS 2024), Copenhagen, Denmark
“The AI-DEC: A Card-based Design Method for User-centered AI Explanations”

ACM Designing Interactive Systems Conference (DIS 2024), Copenhagen, Denmark
“REX: Designing User-centered Repair and Explanations to Address Robot Failures”

2022 ACM CHI Conference on Human Factors in Computing Systems (CHI 2022), New Orleans, LA
“The Unboxing Experience: Exploration and Design of Initial Interactions Between Children and Social Robots”

DOCTORAL CONSORTIA

2026 Future Leaders of AI Doctoral Consortium, ACM AI Leadership Summit 2026, Atlanta, GA
“Designing Responsible AI Workflows: Preserving Control and Supporting Alignment”

2024 *Doctoral Consortium, ACM CHI Conference on Human Factors in Computing Systems (CHI 2024), Honolulu, HI*
“Design, Development, and Deployment of Context-adaptive AI Systems for Enhanced User Adoption”

Teaching & Mentoring

TEACHING

2020–2021 *Teaching Assistant, CS 354: Machine Organization and Programming, UW–Madison, Fall 2020 and Spring 2021*
Instructor: Dr. Debra Deppeler

STUDENT MENTORING

2024– *Xinyu Jessica Wang, UW–Madison, now graduate student at UW–Madison*
Guided development for translation on natural language translation to formal language properties using LLMs
Mentor for undergraduate senior thesis

2024–2025 *Kevin Zhao, UW–Madison*
Guided development for model checking techniques using LLMs
Mentor for undergraduate senior thesis

2022–2023 *Hongyu Fu, UW–Madison, now graduate student at Carnegie Mellon University*
Guided development of A* algorithm for route planning in robot failures
Colin Li, UW–Madison, now graduate student at University of Southern California
Guided algorithm development using LLMs for robot navigation

OUTREACH

2024 UW–Madison Grandparents University
Served as one of four instructors to teach grandparents and grandchildren how to program robots

2023 High school outreach
Hosted half-day lab visit for robot demonstration and discussion panel for computer science majors

Service

COMMUNITY

2025–2026 Webmaster, Human-Computer Interaction Consortium (HCIC), <https://hcic.org>

CONFERENCE REVIEWING

2022– ACM CHI Conference on Human Factors in Computing Systems (CHI)

2023– ACM/IEEE International Conference on Human-Robot Interaction (HRI)

2024– ACM Symposium on User Interface Software and Technology (UIST)

WORKSHOP REVIEWING

2025 IEEE International Conference on Robotics and Automation (ICRA 2025), Workshop on “Human-Centered Robot Learning in the Era of Big Data and Large Models”

Selected Press

2024 *Alhub, Bridging the Gap between User Expectations and AI Capabilities: Introducing the AI-DEC Design Tool*, August 2024

References

Bilge Mutlu, Stephen Wright Professor, Department of Computer Sciences, University of Wisconsin–Madison
bilge@cs.wisc.edu

Min Kyung Lee, Assistant Professor, School of Information, The University of Texas at Austin
minkyung.lee@austin.utexas.edu