Ulas Berk KARLI

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RESEARCH OVERVIEW

I am driven by the pursuit of research that facilitates seamless collaboration between humans and robots by equipping robots with the ability to learn from human interactions and effectively reason about their tasks. While we have made significant advancements in AI systems capable of interpreting and reasoning over human instructions, the challenge lies in seamlessly integrating these capabilities into robotic systems. I firmly believe that a pivotal approach towards achieving this goal is enabling robots to engage in interactive learning from humans, all while possessing the awareness of their own limitations, thus guiding their interactions with humans.

EDUCATION

Yale University, New Haven, CT — Aug 2023
Ph.D., Computer Science

Johns Hopkins University, Baltimore, MD
M.S.E., Robotics: — May 2023

Koc University, Istanbul, Turkey
B.S., Computer Engineering & Mechanical Engineering DM (Double Major): — June 2021
Awards: Cum Laude, Vehbi Koc Scholar, Dean's Honor Roll

RESEARCH EXPERIENCE

Yale University, *Graduate Researcher*, New Haven, CT — Aug 2023 - Present
- LLM enabled Human-Robot Interaction

Johns Hopkins University, *Graduate Researcher*, Baltimore, MD — Sep 2021 - Aug 2023
- Human-Robot Collaboration for Non-Social Robots

Koc University, *Undergraduate Researcher*, Istanbul, Turkey — Jan 2020 – Nov 2021
- Transfer Learning in Model-Based Reinforcement Learning

PUBLICATIONS

Peer-Reviewed Conference Papers:

- Ulas Berk Karli, Juo-Tung Chen, Victor Nikhil Antony, and Chien-Ming Huang
  Alchemist: LLM-aided End-User Development of Robot Applications
  The Proceedings of 2024 ACM/IEEE International Conference on Human-Robot Interaction (HRI'24) - acceptance rate: 25.3%

- Ulas Berk Karli*, Shiye Cao*, and Chien-Ming Huang
  "What If It Is Wrong": Effects of Power Dynamics and Trust Repair Strategy on Trust and Compliance in HRI
  The Proceedings of 2023 ACM/IEEE International Conference on Human-Robot Interaction (HRI'23) - acceptance rate: 25.3% | *equal contribution.

Peer-Reviewed Non-archival Workshop Papers:

- Ulas Berk Karli and Tesca Fitzgerald
  Extended Abstract: Resolving Ambiguities in LLM-enabled Human-Robot Collaboration
  2nd Workshop on Language and Robot Learning: Language as Grounding at Conference of Robot Learning 2023 (CoRL 23)

Theses:

- *Ulas Berk Karli,* Trust Repair In Human-Robot Collaboration (MSE Thesis), Johns Hopkins University, Baltimore, MD, May 2023

COMMUNITY SERVICE

- Peer-Reviewed for Transactions on Human-Robot Interaction (THRI) 2023
- Peer-Reviewed for International Conference in Human-Robot Interaction (HRI 24) 2023
- Peer-Reviewed for International Conference in Robotics and Automation (ICRA 24) 2023