

# Yigit Korkmaz

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October 2025

## RESEARCH INTERESTS

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I am a third-year PhD student interested in Robot Learning and Human-Robot Interaction. My goal is to develop algorithms that enable AI agents to model the behaviors and goals of humans and other agents by leveraging different forms of feedback, including explicit forms such as human demonstrations and comparisons, and more implicit forms such as human gaze and gestures.

## EDUCATION

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<b>University of Southern California</b> , Los Angeles, CA	Aug 2023 – Present
PhD in Computer Science. (Advisor: Erdem Biyik)	<b>GPA:</b> 4.0/4.0
<b>University of California San Diego</b> , San Diego, CA	Sep 2021 – Jun 2023
MSc in Electrical and Computer Engineering. (Advisor: Xiaolong Wang)	<b>GPA:</b> 3.91/4.0
<b>Bogazici University</b> , Istanbul, Turkiye	Sep 2016 – Feb 2021
BSc in Electrical & Electronics Engineering with a minor in Mechanical Engineering.	<b>GPA:</b> 3.74/4.0

## PUBLICATIONS

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### In Submission

- [S2] Minjune Hwang, **Yigit Korkmaz**, Daniel Seita, Erdem Biyik. “Causally Robust Reward Learning from Reason-Augmented Preference Feedback”
- [S1] Xinhu Li, Ayush Jain, Zhaojing Yang, **Yigit Korkmaz**, Erdem Biyik. “When a Robot is More Capable than a Human: Learning from Constrained Demonstrators”

### Conference Papers

- [C3] **Yigit Korkmaz\***, Urvi Bhuwania\*, Ayush Jain<sup>†</sup>, Erdem Biyik<sup>†</sup>. “Actor-Free Continuous Control via Structurally Maximizable Q-Functions”, *Conference on Neural Information Processing Systems (NeurIPS)*, 2025
- [C2] **Yigit Korkmaz**, Erdem Biyik. “MILE: Model-based Intervention Learning”, *International Conference on Robotics and Automation (ICRA)*, 2025
- [C1] Jun Wang\*, Yuzhe Qin\*, Kaiming Kuang, **Yigit Korkmaz**, Akhilan Gurumoorthy, Hao Su, Xiaolong Wang. “CyberDemo: Augmenting Simulated Human Demonstration for Real-World Dexterous Manipulation”, *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024

### Preprints and Workshop Submissions

- [T1] Anthony Liang\*, **Yigit Korkmaz\***, Jiahui Zhang\*, Jesse Zhang\*, Abrar Anwar, Sidhant Kaushik, Yufei Wang, Yu Xiang, David Held, Dieter Fox, Abhishek Gupta, Stephen Tu, Erdem Biyik. ”SPUR: Scaling Reward Learning from Human Demonstrations”. *CoRL 2025 Workshop on Evaluation and Deployment Across the Robot Learning Lifecycle*, 2025

## RESEARCH EXPERIENCE

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<b>Learning and Interactive Robot Autonomy Lab (LiraLab)</b>	Aug 2023 – Present
University of Southern California	Los Angeles, CA
Supervisor: Asst. Prof. Erdem Biyik	
<ul style="list-style-type: none"><li>Specializing in learning from humans through various modes, including explicit demonstrations and comparisons, as well as implicit cues like gaze and gestures, with the aim of equipping AI agents to understand and align with human goals and preferences.</li><li>Developing algorithms to enhance the cooperation between humans and robots by utilizing multiple modes of information sources.</li></ul>	

**Prof. Xiaolong Wang's Research Group**

Mar 2022 – Jun 2023

UC San Diego

*San Diego, CA*

Supervisor: Assoc. Prof. Xiaolong Wang

- Worked on sim-to-real transfer for dexterous manipulation. Took part in developing a framework for robotic imitation learning from visual observations, leveraging simulated human demos by applying systematic data augmentation together with a curriculum learning strategy.

**Existential Robotics Laboratory**

Jun 2022 – Oct 2022

UC San Diego

*San Diego, CA*

Supervisor: Assoc. Prof. Nikolay Atanasov

- Investigated the effects of multimodal observations with tactile information on the performance of Reinforcement and Imitation Learning methods, especially in manipulation tasks.

**Volumetric Analysis & Visualization Group (VAVLab)**

Sep 2020 – Aug 2021

Bogazici University

*Istanbul, Turkey*

Supervisor: Prof. Burak Acar

- Worked on Dual Energy X-ray material discrimination, where the main aim is to create an efficient material discrimination and image understanding method to be used in dual energy x-ray detection systems by employing various computer vision and machine learning algorithms.

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**PROFESSIONAL EXPERIENCE****Research Intern**

May 2025 – Present

Intrinsic

*Mountain View, CA***Robotics Engineer**

Mar 2021 – Aug 2021

Kodmed

*Istanbul, Turkey***Artificial Intelligence & Computer Vision Engineer**

Jul 2020 – Feb 2021

senpai.gg

*Istanbul, Turkey***Hardware & Embedded Software Engineering Intern**

Jul 2019 – Sep 2019

Pubinno

*Istanbul, Turkey*

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**TEACHING**

Teaching Assistant for CSCI 572 - Information Retrieval &amp; Web Search Engines at USC.

Teaching Assistant for CSCI 445L - Introduction to Robotics at USC.

Teaching Assistant for ECE 276A - Sensing &amp; Estimation in Robotics at UC San Diego.

Teaching Assistant for EE 352 - System Dynamics &amp; Control at Bogazici University.

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**EXTRACURRICULAR ACTIVITIES****Lead Robot Inspector & Organization Committee Member**

May 2015 – Sep 2021

Fikret Yuksel Foundation, FIRST Robotics Competition

*Istanbul, Turkey*

- Organized off-season and official FIRST robotics competitions for high school students since 2015 in Ulker Sports Arena.
- During competitions, worked as Lead Robot Inspector, which requires a certificate to ensure knowledge about mechanics, pneumatic systems, electrical circuits, sensors and programming.

**Event Volunteer**

Jan 2016 – Sep 2021

Bilim Kahramanlari, FIRST Lego League

*Istanbul, Turkey*

- Responsible for coordination of judging, robot matches and projects for students of age 9-16.

**CMAS 3-Star Scuba Diver**

Jan 2017 – Aug 2021

BUSAS - Bogazici University Underwater Sports Club

*Istanbul, Turkey*

- Passed required theoretical and practical courses, currently holding CMAS 3 Star Diver License. Voluntarily worked as a member of board of Bogazici University Underwater Sports Club(BUSAS).

## ACCOMPLISHMENTS

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### Scholarships and Fellowships

- Fulbright Scholarship (2yr, 2021-2023, \$50,000 per year)
- High-School Full Merit Scholarship(5yr, \$30,000)

### Highlights

- Ranked as 431st/2,086,087 in 2016 OSYS (Turkish equivalent of SAT).
- 2 times 1st/1,070,445 in high-school entrance exams (SBS) in Turkey. 9th/1,070,445 in average of 3 years.

## SERVICES

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### Reviewer

- RA-L, ICRA, IROS

### Mentoring and Outreach

- Maintainer and one of the editors of UROS blog, a PhD-student-led robotics symposium at USC.
- Mentoring undergrads and master students interested in pursuing research with 1:1 meetings to discuss their academic plans.
- Mentoring for the CURVE undergraduate fellowship for USC undergrads.

## SKILLS & INTERESTS

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**Related Coursework:** Sensing and Estimation in Robotics, Planning and Learning in Robotics, Search and Optimization, Statistical Learning, Robot Learning, Human-Robot Interaction, Computer Vision, Neural Networks and Pattern Recognition, System Dynamics and Control, Stochastic Processes, Signals and Systems, Digital Control.

**Languages:** Python, Matlab, C/C++, Bash.

**Frameworks:** PyTorch, JAX, Tensorflow, Keras, Numpy, Scikit Learn, OpenCV, ROS.

**Interests:** Scuba diving, freediving, surfing, basketball, volunteering.