EXPRESSION OF INTEREST FORM

This Expression of Interest (EOI) document has been prepared to enable researchers of Istanbul Technical University (ITU) to be rapidly and effectively included in existing and potential consortia, primarily within the scope of Horizon Europe and other International Programmes.

The information collected through this form will be used by the ITU International Projects Office for the following purposes:

- Matching researchers with ongoing consortium searches,
- Communication with international project partners,
- Targeted invitations and information dissemination for relevant calls.

Contact Person/Scientist in charge *(data of the principal investigator of the research group/lab or scientific supervisor)* **Name**	Sanem
Surname	Sariel
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Laboratory /Department /Institute /Centre / Name	Artificial Intelligence and Robotics Laboratory / Artificial Intelligence Department @ Istanbul Technical University
Brief description of the Centre/Research Group (Please provide a brief description of your research group or organisational unit, including research infrastructure, laboratory facilities, team size and industry collaborations.)	Artificial Intelligence and Robotics Laboratory (AIR Lab) at ITU is a res Department of Artificial Intelligence and Data Engineering at Istanbul Techr of world's oldest technical universities with a long history of 250 years. Artificial Intelligence and Robotics Laboratory at ITU has been home to mar systems and autonomous robots, robot perception, scene understanding ar establishment in 2007. Over 100 students have graduated contributing to p conference and journals. The laboratory hosts several robots including a Ba Homepage: https://air.cs.itu.edu.tr/
Address	
Research Area (Pleaseprovide5–10 keywords that best describe yourresearch areas and expertise.)	Artificial Intelligence, Robot Learning, Cognitive Robotics, Robot Safety, Multirobot Systems
Please list your relevant previous projects, indicating the programme, project name, year and role.	• Tubitak 1001, 2020 – 2024, PI - "Predicting and Preventing Unsafe Situations for Service Robots", Proje#119E436, 922.635 TL • Tubitak 1001, 2015 – 2018, PI - "Safe Task Execution for Autonomous Humanoid Robots", Proje#115E368, 618.300,02 TL • Tubitak 1001, 2012 – 2014, PI - "Learning Action Representations and Dynamic Planning by Mobile Robots", Proje# 111E286, 213.163 TL
Proposed Project Idea or Area of Interest: (Ifapplicable,please briefly outline a conceptidea,theproblem you aim to address, or your specific area of interest.)	Recent projects at AIR Lab have focused on safety in physical robot-object manipulation by designing and developing advanced multimodal task monitoring and situation awareness tools and failure/anomaly prevention mechanisms.

	1st Project Topic: Monitoring Safety in Robot Manipulation In this project, a deep multimodal sensor fusion framework (FINO-Net) is designed for failure/anomaly detection and prediction in manipulation tasks by humanoid robots. RGB, depth and audio readings are fused in a multimodal fashion to effectively detect robot manipulation failures/anomalies. Website: https://air.cs.itu.edu.tr/projects/finonet.html 2nd Project Topic: Developing tools to ensure safety in Robot Manipulation In this project, deep reinforcement learning methods are designed and developed for failure prevention in manipulation tasks by humanoid robots. A modular and hierarchical learning method is designed for safe robot manipulation to address different safety risks. Website: https://air.cs.itu.edu.tr/projects/tubitak-119e436/ak2023.html 3rd Project Topic: Developing tools to ensure safety in Human-Robot Collaboration In this project, human activity recognition methods are designed and developed for ensuring safety in Human-Robot Collaboration Website: https://arxiv.org/abs/2503.12034 4th Project Topic: Safety in Construction Robotics 5th Project Topic: Safety in Farm Robotics
Potential Contributions to Projects	■ Scientific / technical research ■ Methodology development ■ Modelling / simulation ■ Data analysis / artificial intelligence ■ Experimental studies / testing ■ Pilot / demonstration activities □ Socio-economic analysis / policy contribution □ Education, dissemination and impact activities ■ Other (please specify): ■
Preferred Role in Consortia	■ Coordinator Partner
Programmes and Calls of Interest (Pleaseindicate the programme(s) youare interested in and, if possible, specify the call identifier and/or title.	■ Horizon Europe Clusters ■ Erasmus+ ■ Digital Europe ■ EIT (HEI / KIC, etc.) ■ MSCA ■ ERC □ Other (please specify): Specific call identifier and/or title:

Additional Notes **(**Pleaseprovide anyadditional information or specific remarks you would like to share with the International Projects Office.)	