

# ICARSC 2024 - Program

May 2nd and 3rd, 2024  
Paredes de Coura, Portugal



## 2 May 2024

	Start	End		
	08:30	09:15	Registration	
	09:15	09:30	Opening Session	
	09:30	10:30	<b>Keynote Session 1 - Daniel Polani</b>	
Coffee break	10:30	11:00		
Session 1: Computer Vision - Vitor Pinto	11:00	11:15	30 Naif Al Mudawi, Muhammad Tayyab, Muhammad Waqas Ahmed and Ahmad Jalal	Machine learning Based on Body Points Estimation for Sports Event Recognition
	11:15	11:30	19 Diogo Ferreira and Meysam Basiri	Leveraging Multi-Object Tracking in Vision-based Target Following for Unmanned Aerial Vehicles
	11:30	11:45	6 Alberto Mendez, Adrian Prados, Noelia Fernandez, Gonzalo Espinoza and Ramon Barber	User-guided framework for scene generation using diffusion models
Session 2: Robotic Competitions and Platforms - Vitor Pinto	11:45	12:00	15 Ricardo B. Sousa, Cláudia D. Rocha, João G. Martins, João Pedro Costa, João Tomás Padrão, José Maria Sarmento, José Pedro Carvalho, Maria S. Lopes, Paulo G. Costa and António P. Moreira	A Robotic Framework for the Robot@Factory 4.0 Competition
	12:00	12:15	14 Irene González-Fernández, Miguel A. González-Santamarta, Claudia Álvarez-Aparicio, Juan Diego Peña Narváez, Francisco Martín and Francisco J. Rodríguez-Lera	Formalizing Robotics Competitions: A practical case for RoboCup@Home Challenge
Lunch	12:15	13:45		
Session 3: Assistive Robotics / Human Robot Cooperation - José Lima	13:45	14:00	7 Noelia Fernandez, Gonzalo Espinoza, Alberto Mendez, Alicia Mora and Ramon Barber	Simulation of Randomly Generated Domestic Environments for Assistive Robotics
	14:00	14:15	8 Delgermaa Gankhuyag, Stephanie Groß, Lena Schwamberger, Özge Talay and Cristina Olaverri-Monreal	Facial Features Integration in Last Mile Delivery Robots
	14:15	14:30	16 Julius Arzberger, Jasper Zevinger, Fabian Arzberger and Andreas Nüchter	Design and evaluation of a user interface for astronauts to control mobile robots on planetary surfaces
	14:30	14:45	28 Fabio Almeida Leite, Edmundo Lopes Silva, José Alberto Diaz Amado, Crescencio Lima, Cléia Santos Libarino, Pedro Núñez Trujillo and João Erivando Marques	A Robocentric Paradigm for Enhanced Social Navigation in Autonomous Robotic: a use case for an autonomous Wheelchair
	14:45	15:00	34 João G. Martins, Gabriel M. Costa, Marcelo R. Petry, Paulo Costa and Antonio Paulo Moreira	A Multi-User Multi-Robot Collaboration through Augmented Reality
(Interval)	15:00	15:30		
Session 4: Industrial Robotics - Pedro Fonseca	15:30	15:45	38 André Baltazar, Filipe Santos, António Paulo Moreira, Salviano Pinto Soares, Manuel Reis and José Boaventura Cunha	Modelling and Control of a Trailer Sprayer for Precision Spraying
	15:45	16:00	3 Artur Cordeiro, Luís Rocha, José Cunha and João Souza	6D pose estimation for objects based on polygons in cluttered and densely occluded environments
	16:00	16:15	13 Vitor Ventuzelos, Marcelo R. Petry and Luís F. Rocha	Automating Lateral Shoe Roughing through a Robotic Manipulator Programmed by Demonstration
Coffee break	16:30	17:00		
Session 5: Navigation and Planning I - Luís Louro	16:15	16:30	1 Alicia Mora, Tomoe Ozeki, Tetsuya Mouri and Ramón Barber	A ROS-Integrated Skeleton Detection Framework Enabling Human-Centered Robotic Applications
	17:00	17:15	12 Carlos Tojal, Luis Conde Bento and Paulo Peixoto	CUPREDS: Multi-sensor Point Cloud Mapping for Local Navigation
	17:15	17:30	23 Maria Lopes, Manuel Silva, João Souza and Pedro Costa	Direct-Steered-DRRT*: A 3D RRT-based planner improvement
	17:30	17:45	25 Kelvin Nunes, Tiago Trindade Ribeiro and Andre Gustavo Scolari Conceicao	Trajectory Planning with Obstacle Avoidance using APF and COLREGS for USVs
(Social)	19:00	23:00	Social program and Gala Dinner	Location: Quinta da Gândra (transfer available)

## 3 May 2024

	08:30	09:30	Registration	
	<b>09:30</b>	<b>10:30</b>	<b>Keynote Session 2 - Christine Coste</b>	
Session 6: Machine Learning - Luis Garrote	10:30	10:45	2 Adrian Prados, Alberto Mendez, Gonzalo Espinoza, Noelia Fernandez and Ramon Barber	f-Divergence Optimization for Task-Parameterized Learning from Demonstrations Algorithm
	10:45	11:00	10 Gonçalo Ribeiro and Vitor Santos	Single and multi-tasked neural networks for driving assistance applications: selection and deployment
	11:00	11:15	20 Luís Moreira, Joana Figueiredo, João Cerqueira and Cristina P. Santos	A Real-time Kinematic-based Locomotion Mode Prediction Algorithm for an Ankle Orthosis
	11:15	11:30	33 Tiago Fonseca, Gonçalo Leão, Luis Lino Ferreira, Armando Sousa, Ricardo Severino and Luis Paulo Reis	Multi-Agent Reinforcement Learning for Side-by-Side Navigation of Autonomous Wheelchairs
Coffee break	11:30	12:00		
Session 7: Sensors - Pedro Fonseca	12:00	12:15	18 Rafael Carvalho and Alberto Vale	Exploring Millimeter-Wave Radar Algorithms for Obstacle Detection and Tracking
	12:15	12:30	39 Ana Rocha, Cristiana Pinheiro, Sebastian Sieghartsleitner, Christoph Guger and Cristina Santos	EEG assessment of intentional tremor during motor imagery
	12:30	12:45	37 Maria Pimenta, Cristiana Pinheiro and Cristina Santos	Robotic sensory cueing during gait: a usability study with scenarios of daily living
Lunch	13:00	14:30		
Session 8: Navigation and Planning II - Eurico Pedrosa	12:45	13:00	44 Luís Coelho, Sara Cerqueira, Vitor Martins, João André and Cristina Santos	A DMP-based approach for Human-like robotic movements
	14:30	14:45	32 André Ribeiro and Meysam Basiri	Cooperative 3D Exploration and Mapping using Distributed Multi-Robot Teams
	14:45	15:00	35 Luis Garrote, Ulisses Reverendo and Urbano J. Nunes	Exploiting 3D Grids for Indoor SLAM in Featureless Scenarios
	15:00	15:15	40 Arthur Lago, Nuno Neves, Rodrigo Ventura and José Gaspar	Visual-Inertial Odometry for Metric-Scale Mapping of Underwater Caves
Coffee break	15:30	16:00		
Session 9: Robotic Manipulation - Vitor Pinto	15:15	15:30	42 Fernanda Coutinho, Edson Costa and Jorge Barreiros	Analysis of Automated Guided Vehicles Routes Considering Disturbances and Unexpected Events
	16:00	16:15	47 Jorge Telo, Dimitrios Dimou and Plinio Moreno	Trajectories in Hand Synergy Spaces for in-hand manipulation
	16:15	16:30	36 Nuno Ribeiro, Luís Louro, Paulo Vicente, Pedro Ribeiro, Daniel Rodrigues, Pedro Dias, Emanuel Sousa, Sérgio Monteiro and Estela Bicho	RAMBO – Robotic Anthropomorphic Manipulator for Bimanual Operations
	16:30	16:45	41 Rodrigo Antunes, Luan Lang, Martim Lima Aguiar, Thiago Assis Dutra and Pedro Dinis Gaspar	Enhancing the Performance of Fin Ray Effect Soft Robotic Finger via Computational Design and Simulation
	16:45	17:00	45 Vitor Martins, Sara Cerqueira, Luis Coelho and Cristina Santos	An Admittance-based Control Strategy for Human-Robot Collaboration Task Quality Management
Closing	17:00	17:15	Closing Closing Ceremony	