



The technical program consists of invited talks as well as oral and poster presentations of accepted papers.

Tuesday 2nd September	Wednesday 3rd September	Thursday 4th September	Friday 5th September
8:00 Registration desk	8:30 Registration desk	8:30 Registration desk	8:30 Registration desk
9:00 Workshops	9:00 Opening	9:00 Oral session 4	9:00 Keynote <i>Silvia Rossi</i>
	9:15 Oral session 1		10:00 Best paper awards
10:30 Coffee break	10:30 Coffee break	10:30 Coffee break	10:30 Coffee break
11:00 Workshops	11:00 Oral session 2	11:00 Oral session 5	11:00 Oral session 7
13:00 Lunch	13:00 Lunch	13:00 Lunch	13:00 Lunch
14:00 Workshops	14:00 Keynote <i>Gordon Cheng</i>	14:00 Keynote <i>Yiannis Aloimonos</i>	14:00 Late breaking results 14:15 Industrial forum
	15:00 Coffee break	15:00 Coffee break	15:00 Coffee break
15:30 Coffee break	15:30 Oral session 3	15:30 Oral session 6	15:30 Poster session 3
16:00 Workshops		16:30 Poster session 1	
18:00 Welcome reception			17:00 Closing & Farewell drink

19:30 Social dinner

Wednesday 03/09/2025

Oral session 1

101	Marin Maletić, Marijana Peti, Tamara Petrović and Stjepan Bogdan	Spatial-Semantic Reasoning using Large Language Models for Efficient UAV Search Operations
59	Abdel-Raouf Dannaoui, Johann Laconte, Christophe Debain, François Pomerleau and Paul Checchin	When and Where Localization Fails: An Analysis of the Iterative Closest Point in Evolving Environment
64	Igor Cvišić, Ivan Marković, Sacha Vražić and Ivan Petrović	Racetrack Rolling-shutter Stereo Visual Odometry and Dataset
44	Andrea Miele, Martina Lippi and Andrea Gasparri	Perception-driven Neural-based Potentials for Mobile Robot Motion Control
84	Pascal Goldschmid and Aamir Ahmad	A Multi-Simulation Approach with Model Predictive Control for Anafi Drones

Oral session 2

17	Xinyan Tan, Weimin Zhang and Fangxing Li	Dynamic Collaborative Control and Path Optimization for Multi-Arm Rebar-Tying Robot
63	Javier Laserna, Saurabh Gupta, Oscar Martinez Mozos, Cyrill Stachniss and Pablo San Segundo	Loop Closure Verification in 3D LiDAR-Based SLAM
92	Anudeep Sajja, Shahram Khorshidi, Sebastian Houben and Maren Bennewitz	End-to-End Multi-Task Policy Learning from NMPC for Quadruped Locomotion
21	Diego Gitardi, Lorenzo Latini, Simone Sabbadini, Stefano Mutti and Anna Valente	Ultrasonic Inspection implementation into UMA – a climbing robotic platform for maintenance applications.
103	David Rytz, Suyoung Choi, Wanming Yu, Wolfgang Merkt, Jemin Hwangbo and Ioannis Havoutis	Reference Free Platform Adaptive Locomotion for Quadrupedal Robots using a Dynamics Conditioned Policy
78	Alex Bassot, Michele Antonazzi, Edoardo Rodiani, Samuel Yanes Luis, Matteo Luperto and Nicola Basilico	VAE-Informed Patrolling for Online Environmental Monitoring with Heterogeneous ASV-UAV Teams
4	Ryan Poon and Ian Hunter	A Novel Underactuated Modular Robot for Wheeled-Grasping Climbing: Design and Validation
53	Sumanth Nagulavancha, Dhagash Desai, Saurabh Gupta, Luca Lobefaro, Cyrill Stachniss, Ignacio Vizzo and Tiziano Guadagnino	Revisiting Fast and Accurate RGB-D Odometry for Real-World Use by Embracing Simplicity

Oral session 3		
112	Wanmeng Li, Simone Mosco, Daniel Fusaro and Alberto Pretto	ConUDA: Confidence-Guided Pseudo-Label Sampling for Unsupervised Domain Adaptation in 3D LiDAR Semantic Segmentation
24	Martina Benko Loknar, Sašo Blažič, Gregor Klančar, Tena Žužek and Rok Vrabič	Computational Analysis of Jerk Limited Velocity Planning for AGVs
52	Oscar Lima, Marc Vinci, Sunandita Patra, Sebastian Stock, Joachim Hertzberg, Martin Atzmueller, Malik Ghallab, Dana Nau and Paolo Traverso	Acting and Planning with Hierarchical Operational Models on a Mobile Robot: A Study with RAE+UPOM
46	Giorgio Audrito, Mauro Martini, Umberto Albertin and Marcello Chiaberge	UWB Multi-robot Localization with Gaussian Belief Propagation on Factor Graph
88	Jindřiška Deckerová and Jan Faigl	Lower-bound Solutions to the Touring Regions Problem with Polygonal Obstacles and Disk-shaped Regions
Poster session 1		
97	Antonella Barisic Kulas, Andrea Jurasovic and Stjepan Bogdan	Unlocking Thermal Aerial Imaging: Synthetic Enhancement of UAV Datasets
28	David Cáceres Domínguez, Marco Iannotta, Abhishek Kashyap, Shuo Sun, Yuxuan Yang, Christian Cella, Matteo Colombo, Martina Pelosi, Giuseppe Fabio Preziosa, Alessandra Tafuro, Isacco Zappa, Finn Busch, Yifei Dong, Alberta Longhini, Haofei Lu, Rafael Ignacio Cabral Muchacho, Jonathan Styrud, Sebastiano Fregnan, Marko Guberina, Zheng Jia, Graziano Carriero, Sofia Lindqvist, Silvio Di Castro and Matteo Iovino	The First WARA Robotics Mobile Manipulation Challenge - Lessons Learned
13	Hiroto Kakinoki, Hiroaki Masuzawa and Jun Miura	Odometry Enhancement and Localization in Orchards Using Tree Trunk Landmarks with 2D LiDAR
62	Andreas Gründer, Johannes Bayer, Matthias Kalenberg, Julian Benz, Stefan Becker, Jörg Franke and Sebastian Reitelshöfer	A Battery Model for Learning Energy Optimized Flight Paths in UAV Simulation
3	Tyler Guscott, Jacques Welgemoed, Theo van Niekerk, Paolo Mercorelli and Kabelo Mpurwana	Tension/Length-Controlled Winch System for Tethered UAVs

12	Ludvig Ericson, José Pedro and Patric Jensfelt	Information Gain Is Not All You Need
57	Alessio Lovato, Alberto Piccina, Massimiliano Bertoni and Giulia Michieletto	Human-Guided Autonomous Mobile Manipulator in Dynamic Environments
73	Jonathan Boylan, Camilo Ordonez and Jonathan Clark	Motion Planning for Multimodal Underwater Legged Robots
107	Mohsen Zahmatkesh, Maryam Zahmatkesh, Honghao Pan, Fatemeh Rekabi-Bana, Junyan Hu and Farshad Arvin	Unified Neural Network Augmented Robust Control of Hexarotors with Unknown Disturbances
32	Gianluca Bardaro, Antonio Sgaramella and Matteo Matteucci	A Robust Monocular Person-Following System on Embedded Platforms
81	Lorenzo Montano-Oliván, Kalle Hakonen-Milosevic, Julio A. Placed, Eetu Friman, Luis Montano, Jussi Aaltonen, Kari T. Koskinen and Maria T. Lázaro	Towards the Deployment of an Autonomous Scaling Machine in Underground Mines
105	Benedetta Flammini, Mustafa Cagatay Sipahioglu and Francesco Amigoni	A Deadlock-Free Solution for Multi-Agent Pickup and Delivery in Presence of External Agents
54	Vasileios Zotos, Giorgos Karvounas, Konstantinos Bacharidis and Antonis Argyros	Visual Perception of Repetitive Human Motions: Temporal Localization, Grouping and Repetitions Counting
70	Morteza Haghbeigi and Andrzej Ordys	Adaptive Potential Fields for Multi-Robot Path Planning with Convergence Avoidance
9	Carolin Bösch, Fabian Arzberger and Andreas Nuechter	Real-Time LiDAR based Calculation of the Ground Plane's Normal Vector on Spherical Mobile Mapping Systems
60	Rémi Porée, Martin Mujica, Nicolas Tricot and Viviane Cadenat	Non-Holonomic Mobile Manipulator NMPC for Occlusion Avoidance Based on Elliptic Cone FOV Representation

Thursday 04/09/2025

Oral session 4

29	Hendrik Surmann, Jorge de Heuvel and Maren Bennewitz	Multi-Objective Reinforcement Learning for Adaptive Personalized Autonomous Driving
114	Alicia Mora, Ramon Barber, Santiago Garrido and Luis Moreno	Bridging Perception and User Needs: Semantic Mapping with Grounded Interpretation using a Dual-Embeddings Approach
86	Marcello Bavaro and Francesco Amigoni	Multi-Agent Pickup and Delivery with Batteries
102	Matteo Terreran, Laura Bragagnolo, Davide Allegro and Stefano Ghidoni	A Lightweight Ensemble Framework for Online Skeleton-Based Human Action Recognition in Industrial Environments
119	Sanjeev Kumar Ramkumar Sudha, Joel Jose and Erlend Coates	Efficient Online Learning and Adaptive Planning for Robotic Information Gathering Based on Streaming Data
33	Michele Moriconi, Stefan Laible and Carmine Recchiuto	Foundation-model-based Action selection for Behavior Trees in Navigation

Oral session 5

15	Ricardo Cannizzaro, Michael Groom, Jonathan Routley, Robert Osazuwa Ness and Lars Kunze	COBRA-PPM: A Causal Bayesian Reasoning Architecture Using Probabilistic Programming for Robot Manipulation Under Uncertainty
19	Santosh Thoduka, Sebastian Houben, Juergen Gall and Paul G. Plöger	Enhancing Video-Based Robot Failure Detection Using Task Knowledge
36	Aaron Kurda, Simon Steuernagel, Lukas Jung and Marcus Baum	Reducing Drift of Lidar Odometry by Incorporating OpenStreetMap Building Data
58	Michael Schröder, Eric Schöneberg, Daniel Görges and Hans Schotten	Polygonal Obstacle Avoidance Combining Model Predictive Control and Fuzzy Logic
8	Federico Rollo, Valentina Pericu, Marco Roveri, Arash Ajoudani and Navvab Kashiri	LEO-SLAM: A Multi-Level Scan Matching Approach with Submap-based Loop Closure Detection
49	Dyuman Aditya, Junning Huang, Nico Bohlinger, Piotr Kicki, Krzysztof Walas, Jan Peters, Matteo Luperto and Davide Tateo	Robust Localization, Mapping, and Navigation for Quadruped Robots
80	Jan Kuhlmann and Thomas Wiemann	CHAD TSDF - An Associative and Discretized Data Structure for TSDF SLAM
90	Junyi Shi and Tomasz Piotr	Leveraging Maps of Spatial Motion Patterns to Enhance

	Kucner	Long-Term Adaptive Trajectory Prediction with Diffusion Models
Oral session 6		
89	Marcello Bavaro and Francesco Amigoni	Hierarchical Token Passing Algorithm for Multi-Agent Pickup and Delivery
83	Matteo Luperto, Valerii Stakanov, Giacomo Boracchi, Nicola Basilico and Francesco Amigoni	Biasing Frontier--Based Exploration with Saliency Areas
41	Sahar Salimpour, Jorge Peña Queralta, Diego Paez-Granados, Jukka Heikkonen and Tomi Westerlund	Sim-to-Real Reinforcement Learning for Local Mobile Robot Navigation in Dynamic Environments
11	Carl Hentges, Matthew Budd, Andrew Platt, Bruno Lacerda, Dave Parker and Nick Hawes	CHiPS: Composing Hierarchical Pareto Solutions for Scalable Planning in Multi-Objective MDPs
117	Abhay Dayal Mathur, Alexandre Chapoutot and David Filliat	Improving Domain Generalisable LiDAR Semantic Segmentation In Off-Road Environments with Spatial Context and Auxiliary Tasks
Poster session 2		
120	Thanh Binh Do and François Guerrin	A Unified Orchestration Architecture for Multi-Robot Systems in Automated ground Levelling
118	Nabanita Dash, Ayush Kaura, Shivam Singh, Ramandeep Singh, Snehasis Banerjee, Mohan Sridharan and K Madhava Krishna	Anticipate, Adapt, Act: A Hybrid Framework for Task Planning
48	Utkarsh Bajpai, Julius Rücker, Cyrill Stachniss and Marija Popović	Uncertainty-Informed Active Perception for Open Vocabulary Object Goal Navigation
56	Magnus Bøgh-Larsen, Adam Gerstnerlund, Davide Ragogna, Haris Alagić, Ozan Gazi Yücel, Sepideh Valiollahi Bisheh, Suzy Choi, Shahab Heshmati-Alamdari, Chen Li and Dimitrios Chrysostomou	A Vision-Language Framework for Assistive Home Robotics
106	Alexander Prutsch, Mathias Schustereder and Horst Possegger	Leveraging Foundation Models for Labeling Custom Object Masks in LiDAR Point Cloud Sequences
75	Jesus Moncada-Ramirez, Jose-Raul Ruiz-Sarmiento, Cipriano Galindo and Javier Gonzalez-Jimenez	Mobile Robot Place Segmentation and Categorization Using Object Semantics
39	Jonathan Cox, James R.	Balancing Cost and Reliability in Autonomous Agricultural

	Heselden, Marc Hanheide and Elizabeth Sklar	Robotics: A Case Study in Horticulture
27	Ola Ringdahl and Polina Kurtser	Improving Point Cloud Registration with Spatial Regularization
109	Maryam Kazemi Eskeri, Thomas Wiedemann, Ville Kyrki, Dominik Baumann and Tomasz Kucner	A Lightweight Crowd Model for Robot Social Navigation
100	João Matias, Rodrigo Ventura and Meysam Basiri	Vision-Based Target Pursuit and Formation Maintenance for UAV Teams using Nonlinear Model Predictive Control
99	Davide Villaboni, Francesco Bazzani, Alberto Castellini and Alessandro Farinelli	Transformer-Based Anomaly Detection for Mobile Robots
72	Mehdi Ishac Dechicha, Alexandre Eudes, Paul Denazelle and Julien Marzat	Exploration Strategies for a Heterogeneous UAV-UGV Tandem
35	Juan Carlos Saborío, Marc Vinci, Oscar Lima, Sebastian Stock, Lennart Niecksch, Martin Günther, Alexander Sung, Joachim Hertzberg and Martin Atzmueller	Uncertainty-Resilient Active Intention Recognition for Robotic Assistants
26	Patrick Ziegler, Sebastian Reitelshöfer and Jörg Franke	Mobile Robot Environment Perception: Adaptable Real-Time Neural Network Architecture for RGB-D Ground Segmentation
79	Sier Ha, Honghao Du, Xianjia Yu and Tomi Westerlund	Enhancing lidar Point Cloud Sampling via Colorization and Super-Resolution of lidar Imagery
68	Yitong Quan, Benjamin Kiefer, Martin Messmer and Andreas Zell	Learning-Based Distance Estimation for 360° Single-Sensor Setups

Friday 05/09/2025

Oral session 7

37	Muhammad Haseeb Zaar Khizar, Johann Laconte, Roland Lenain and Romuald Aufrère	Feeling the Force: A Nuanced Physics-based Traversability Sensor for Navigation in Unstructured Vegetation
31	Pranav Saxena, Nishant Raghuvanshi and Neena Goveas	UAV-VLN: End-to-End Vision Language guided Navigation for UAVs
98	Evmorfia Ch. Sidiroglou, Athanasios Kapoutsis, Shan An and Konstantinos A. Tsintotas	Design and Implementation of a Modular Omnidirectional Ground Robot Using Raspberry Pi 5 and ROS 2
61	Leandro de Souza Rosa and Luca Iocchi	A Neural Network Architecture for Forward Kinematics Learning of Linked Serial Robots
51	Niccolò Bonucci, Martina Lippi, Eduardo Montijano and Andrea Gasparri	An Adaptive Neural-based Model Predictive Control Framework for Autonomous Aggressive Driving
34	Nigitha Selvaraj, Alex Mitrevski and Sebastian Houben	Are Learning-Based Approaches Ready for Real-World Indoor Navigation? A Case for Imitation Learning
40	Benedict Stephan, Söhnke Benedikt Fishedick, Steffen Müller and Horst-Michael Gross	Image-based 3D Grasp Pose Estimation for Efficient Targeted Grasping
76	Mingyu Wu, Hui Liu, Eileen L.M. Su, Shuangxi Chen, William Holderbaum and Chenguang Yang	Scalable Path–Energy Co-Optimization for Single AMRs: A Hierarchical Reinforced GWO Approach

Poster session 3

67	Anastasios Agakidis, Panagiotis Bakirtzis and Loukas Bampis	MESA: A Multi-Environment Synthetic Adaptation Dataset for visual SLAM Evaluation and Feature Learning
116	Zhibin Yan, Junyi Shi and Tomasz Piotr Kucner	STeF-LSTM: A Hybrid Framework Integrating Periodic and Sequential Modeling for Mapping Motion Patterns
45	Nikolas Müller, Ahmad Kadi, Marie-Laure Mugnier, Guillaume Pérution, Federico Ulliana and Martin Atzmueller	A Legislation-Aware Robotic Framework for Autonomous Fertilization Near Protected Water Bodies
110	Yavuzhan Erdem, Arif Yılmaz and H. Isil Bozma	Efficient Navigation of a Cartesian Robot Among Plants in a Garden
85	Nikica Perić, Luka Ćuk, Goran Vasiljević and Stjepan Bogdan	Collection and analysis of soil samples using a mobile robot
95	Branimir Ćaran, Vladimir Milić, Marko Švaco and Bojan Jerbić	Odometry Calibration and Pose Estimation of a 4WIS4WID Mobile Wall Climbing Robot
77	Václav Truhlařík, Tomáš Pivoňka and Libor Přeučil	Fast and Robust Teach-and-Repeat Navigation Using MixVPR Visual Place Recognition

18	Romisaa Ali, Sedat Dogru, Lino Marques and Marcello Chiaberge	Performance Evaluation of Move Base Integration with Deep Reinforcement Learning for Autonomous Robot Navigation*
71	Leonardo Parancola, Matteo Terreran, Leonardo Barcellona and Stefano Ghidoni	Fast-EgoHOS: An Efficient Framework based on Hand-Object Segmentation for Object-Agnostic Human-to-Robot Handovers
104	Mathis Fleuriel, Elena Vanneaux, David Filliat and Olivier Simonin	Exploring Underground Environments by Deploying and Reconfiguring a Chain of Visually Connected UAVs
42	Matthias Kalenberg, Song Li, Helmut Engelhardt, Jonas Walter and Jörg Franke	Side Tendency Layer: Enhancing Social Robot Navigation for Passenger and Pedestrian Comfort Using Local Sensor Data
65	Martin Zoula and Jan Faigl	Code-based Design for Consistent Prototyping, Manufacture and Physical Modeling of Multimodal Robots
69	Yitong Quan, Benjamin Kiefer, Martin Messmer and Andreas Zell	Lightweight Multi-Frame Integration for Robust YOLO Object Detection in Videos
25	Thanh Nguyen Canh, Bao Nguyen Quoc, Haolan Zhang, Bupesh Rethinam Veeraiah, Xiem Hoangvan and Nak Young Chong	IRAF-SLAM: An Illumination-Robust and Adaptive Feature-Culling Front-End for Visual SLAM in Challenging Environments
20	Muath Bani Hani	Inverse Dynamics and Automatic Control of a Constrained Four-Bar Linkage Robot
111	Robel Mamo and Taeyeong Choi	CA-Cut: Crop-Aligned Cutout for Data Augmentation to Learn More Robust Under-Canopy Navigation