Advance Program
(IEEE ISM/IRC/BigMM 2022)

All times are in Central European Time (CET)

Monday, December 5				
Time (CET)	**Aragonese + Catalana** (Zoom Link)	**Sveva + Normanna** (Zoom Link)	**Virtual 1** (Zoom Link)	**Virtual 2** (Zoom Link)
07:30 - 08:30	**Check In (in person only)**			
08:30 - 09:00	**Opening Ceremony** **(Chair: Phillip Sheu, Co-Chairs: Fabio Persia, Davide Brugali, Daniela D'Auria, Giovanni Pilato)**			
09:00 - 10:00	**Keynote 1: Vincenzo Moscato** (Chair: Fabio Persia)			
10:00 - 11:25	**Session 1: (ISM-1)** (4 regular papers) (Chair: Mustafa Sert)	**Session 2: (IRC-1)** (4 regular papers) (Chair: Eric Matson)	**Session BMMv1: (BMM-V1)** (4 regular papers) (Chair: Roberto Pirrone)	
11:25 - 11:50	**Coffee Break**			
11:50 - 12:50	**Keynote 2: Bruno Siciliano** (Chair: Daniela D'Auria)			
12:50 - 14:15	**Lunch (on your own)**			
14:15 - 14:30			**Session A : (ISM-V1)** (1 regular paper, 3 short papers, 3 poster papers) (Chair: Stefano Petrangeli)	
14:30 - 16:05	**Session 3: (ISM-2)** (3 regular papers) (Chair: Mouzhi Ge)	**Session 4: (IRC-2)** (6 short papers) (Chair: Swarnabha Roy)		**Session BMMv2: (BMM-V2)** (4 regular papers) (Chair: Orazio Gambino)
16:05 - 16:15				

16:15 - 16:30	**Coffee Break**			
16:30 – 17:35	**Session 5: (ISM-3)** (2 regular papers) (Chair: Max Mühlhäuser)	**Session 6: (IRC-3)** (5 short papers) (Chair: Florian Spiess)	**Session B : (IRC-V1)** (1 regular paper, 3 short papers, 2 poster papers) (Chair: Hung La)	**Session BMMv3: (BMM-V3)** (2 regular paper, 1 short paper, 4 poster papers) (Chair: Orazio Gambino)
17:35 - 17:50	**Session 7: (ISM-4)** (1 short paper, 3 poster papers) (Chair: Atsuo Yoshitaka)			
17:50 - 18:25		**Session 8: (IRC-4)** (1 short paper, 4 poster papers) (Chair: Giovanni Pilato)		
19:00 - 21:00	**Social Event ("Posillipo" room - 10th floor)**			

Tuesday, December 6				
Time\ Place	**Aragonese + Catalana** (Zoom Link)	**Sveva + Normanna** (Zoom Link)	**Virtual 1** (Zoom Link)	**Virtual 2** (Zoom Link)
08:00 - 08:30	Check In (in person only)			
08:30 - 09:30	**Keynote 3: Max Mühlhäuser** (Chair: Mouzhi Ge)			
09:30 - 10:30	**Keynote 4: Ciro Esposito** (Chair: Mustafa Sert)			
10:30 – 10:50	**Coffee Break**			
10:50 - 11:55	**Session 9: (BigMM-1)** (3 regular papers) (Chair: Mouzhi Ge)	**Session 10: (IRC-5)** (4 regular papers) (Chair: Davide Brugali)	**Session C: (IRC-V2)** (3 regular papers, 2 short papers) (Chair: Kazuhiko Takahashi)	
12:15 - 12:25	**Session 11: (ISM-5)** (3 short papers) (Chair: Matthew Hamilton)			
12:25 – 14:40	**Lunch (on your own)**			

14:40 - 15:00		**Session 13: (IRC-6)** (6 regular papers) (Chair: Minh Trinh)		
15:00 - 16:45	**Session 12: (ISM-6)** (5 regular papers) (Chair: Pavel Zezula)		**Session D: (ISM-V2)** (2 regular papers, 2 short papers, 2 poster papers) (Chair: Mouzhi Ge)	**Session BMMv4: (BMM-V4)** (4 invited papers) (Chair: Mike Shou)
16:45 - 17:05	**Coffee Break**			
17:05 - 18:10	**Session 14: (ISM-7)** (3 short papers, 1 poster paper) (Chair: Robert Mertens)	**Session 15: (IRC-7)** (4 short papers) (Chair: Francisco Cuellar)	**Session E: (ISM-V3)** (1 regular papers, 1 short paper, 2 poster papers) (Chair: Gang Wu)	
19:30 – 21:30	**Banquet (@ "Zi Teresa" Restaurant)**			

Wednesday, December 7				
Time\ Place	**Aragonese + Catalana** (Zoom Link)	**Sveva + Normanna** (Zoom Link)	**Virtual 1** (Zoom Link)	**Virtual 2** (Zoom Link)
08:30 - 09:00	**Check In (in person only)**			
09:00 - 10:00	**Keynote 5: Alfredo Cuzzocrea** (Chair: Giovanni Pilato)			
10:00 - 10:45	**Session 16: (BigMM-2)** (2 invited papers) (Chair: Alfredo Cuzzocrea)	**Session 17 (I): (IRC-8)** (3 regular papers) (Chair: Andreas Kriegler)	**Session F: (ISM-V4)** (2 regular papers, 2 short papers) (Chair: Mouzhi Ge)	
10:45 - 11:15				
11:15 – 11:35	**Coffee Break**			

11:35 - 11:55	**Session 18: (ISM-8)** (4 poster papers) (Chair: Vasileios Mezaris)	**Session 17 (II): (IRC-8)** (1 regular paper) (Chair: Andreas Kriegler)	**Session G: (IRC-V3)** (3 regular papers, 1 short paper) (Chair: Victor Parque)	
11:55 - 12:20		**Session 20: (IRC-9)** (3 regular papers, 1 short paper) (Chair: Luca Muratore)		
12:20 - 13:00				
13:00 – 14:30	**Lunch (on your own)**			
14:30 - 15:35	**Session 21: (ISM-9)** (4 short papers) (Chair: Giovanni Pilato)	**Session 22: (IRC-10)** (5 short papers) (Chair: Joshua Springer)	**Session H: (IRC-V4)** (2 regular papers, 3 short papers) (Chair: Tauhidul Alam)	**Session BMMv5: (BMM-V5)** (3 invited papers) (Chair: Filippo Vella)
15:35 - 15:50	**Session 23: (ISM-10)** (3 short papers) (Chair: Francesco Pistolesi)	**PhD workshop (0)** (2 workshop papers) (Chair: John Gallagher)		
15:50 - 16:20				
16:20 - 16:40	**Coffee Break**			
16:40 - 17:15	**NFCR Workshop** (5 workshop papers) (Chair: Giovanni Pilato)	**CHARMS Workshop + PhD workshop (II)** (4 workshop papers +2 phd workshop papers) (Chair: John Gallagher)	**PhD workshop (I)** (2 workshop papers) (Chair: TBD)	
17:15 - 18:15				
18:15 - 19:00	**IEEE Computer Society Technical Committees information** (Chair: Chengcui Zhang)			
19:00 - 19:30	**Award Ceremony** (Co-Chairs: Phillip Sheu, Fabio Persia and Daniela D'Auria)			

Detailed In-Person Sessions (IEEE ISM 2022)

Session	Title
Session 1: **ISM-1 - Multimedia Retrieval and Processing** **(**Chair: Mustafa Sert**)**	Complete Cross-triplet Loss in Label Space for Audio-visual Cross-modal Retrieval (Regular Paper) *Donghuo Zeng, Yanan Wang, Jianming Wu and Kazushi Ikeda*
	Interactive RGB Image Segmentation via Depth-modified Click Encoding and Estimated Depth (Regular Paper) *Furkan Kaynar, Adrian Michl and Eckehard Steinbach*
	Efficient Multi-Threading Startegies in VVenC, an Open and Optimized VVC Encoder Implementation (Regular Paper) *Valeri George, Jens Brandenburg, Gabriel Hege, Tobias Hinz, Adam Wieckowski, Benjamin Bross and Detlev Marpe*
	Effects of Color Stain Normalization in Histopathology Image Retrieval using Deep Learning (Regular Paper) *Antonio M. Rinaldi, Cristiano Russo and Cristian Tommasino*
Session 3: **ISM-2 - Best Paper Session (I)** **(**Chair: Mustafa Sert**)**	Robust Depth Estimation in Foggy Environments Combining RGB Images and mmWave Radar (Regular Paper) *Mengchen Xiong, Xiao Xu, Dong Yang and Eckehard Steinbach*
	Segmentation Consistency Training: Out-of-Distribution Generalization for Medical Image Segmentation (Regular Paper) *Birk Torpmann-Hagen, Vajira Thambawita, Michael Riegler, Pål Halvorsen and Kyrre Glette* **Opponent**: Cristian Tommasino - Virtual
	Aggregated Bidirectional Local Binary Pattern for Robust Perceptual Image Hashing (Regular Paper) - Virtual Presentation *S. Qasim Abbas, S. Jannat Shirazi and Yi-Ping Phoebe Chen* **Opponent**: Zeyu Xiong - Virtual
Session 5: **ISM-3 - Best Paper Session (II)** **(**Chair: Max Mühlhäuser**)**	TAME: Attention Mechanism Based Feature Fusion for Generating Explanation Maps of Convolutional Neural Networks (Regular Paper) *Mariano Ntrougkas, Nikolaos Gkalelis and Vasileios Mezaris* **Opponent**: Zhe Zhang - Virtual
	Detecting happiness from 14-channel binary-valued EEG charts via deep learning (Regular Paper) *Michele Baldassini, Francesco Pistolesi and Beatrice Lazzerini* **Opponent**: Furkan Kaymar

Session 7: **ISM-4 - Visual Interfaces and Applications** **(**Chair: Atsuo Yoshitaka**)**	Teardrop Magnification: A Hybrid Linear-Fisheye Magnifier for the Border and Corner of the Screen (Poster Paper) *Florian Schniederjann, Darius Rausch, Jens Wiggenbrock and Robert Mertens*
	FFmpegSR: A General Framework Toward Real-time 4K Super-Resolution (Short Paper) - Virtual Presentation *Na Li and Yao Liu*
	Multimodal 2D/3D Registration for Open Augmented Reality Applications (Poster Paper - Virtual Presentation) *Madjid Maidi and Samir Otmane*
	On Requirements for Field of Light Displays to Pass the Visual Turing Test (Poster Paper) *Matthew Hamilton, Nicholas Wells and Amilcar Soares*
Session 11: **ISM-5 - Sparsity and Efficiency in Multimedia** **(**Chair: Matthew Hamilton**)**	To Sparsify or not to Sparsify: Simplifying Visual Feature Maps for Mobile Agents (Short Paper) *Sebastian Eger, Rastin Pries, Gábor Sörös, Michael Adam, Martin Piccolrovazzi and Eckehard Steinbach*
	Analysis of Heart Sound Signals using Sparse Modeling with Gabor Dictionary (Short Paper - Virtual Presentation) *Mahmoud Fakhry, Abeer Fathallah Brery and Ascensión Gallardo-Antolín*
	On Selection of Efficient Sequential Pattern Mining Algorithm Based on Characteristics of Data (Short Paper) *Jakub Peschel, Michal Batko and Pavel Zezula*
Session 12: **ISM-6 - Multimedia Recognition and Assessment** **(**Chair: Pavel Zezula**)**	Improving Multimodal Object Detection with Individual Sensor Monitoring (Regular Paper) *Christopher Kuhn, Markus Hofbauer, Bowen Ma, Goran Petrovic and Eckehard Steinbac*
	Self-Supervised Object Recognition Based on Repeated Re-Capturing of Dynamic Indoor Environments (Regular Paper) *Martin Piccolrovazzi, Michael Adam, Sebastian Eger, Marsil Zakour and Eckehard Steinbach*
	Gated-ViGAT: Efficient bottom-up event recognition and explanation using a new frame selection policy and gating mechanism (Regular Paper) *Nikolaos Gkalelis, Dimitrios Daskalakis and Vasileios Mezaris*
	Semantic-Aware View Prediction for 360-Degree Videos at the 5G Edge (Regular Paper) *Shivi Vats, Jounsup Park, Klara Nahrstedt, Michael Zink, Ramesh Sitaraman and Hermann Hellwagner*
	S2CMAF: Multi-Method Assessment Fusion for Scan-to-CAD Methods (Regular Paper) *Driton Salihu, Adam Misik, Markus Hofbauer and Eckehard Steinbach*
Session 14: **ISM-7 - Video Coding and**	Low-precision post-filtering in video coding (Short Paper) *Ruiying Yang, Maria Santamaria, Francesco Cricri, Honglei Zhang, Jani Lainema,*

Summarization **(**Chair: Robert Mertens**)**	*Ramin G. Youvalari and Miska M. Hannuksela*
	THE LOTTERY TICKET ADAPTATION FOR NEURAL VIDEO CODING (Short Paper) *Nannan Zou, Francesco Cricri, Honglei Zhang, Hamed Rezazadegan Tavakoli, Miska Hannuksela and Esa Rahtu*
	Explaining video summarization based on the focus of attention (Short Paper) *Evlampios Apostolidis, Georgios Balaouras, Vasileios Mezaris and Ioannis Patras*
	Measuring the Influence of Image Preprocessing on the Rate-Distortion Performance of Video Encoding (Poster Paper) *Markus Hofbauer, Christopher Kuhn, Goran Petrovic and Eckehard Steinbach*
Session 18: **ISM-8 - Multimedia Systems and Architectures** **(**Chair: Vasileios Mezaris**)**	Detection of Commercial Fishing-related Slipping Events using Multimodal Data (Poster Paper - Virtual Presentation) *Tor-Arne Nordmo, Martine Espeseth, Bjørn Aslak Juliussen, Michael Riegler and Dag Johansen*
	Synthesizing ultraviolet skin images via GAN with Gaussian weighted patch blending (Poster Paper) *Ruowei Jiang, Brendan Duke, Frederic Flament and Parham Aarabi*
	A smartphone app to collect emotion-labeled signals in the wild using a body sensor network (Poster Paper) *Francesco Pistolesi, Michele Baldassini and Beatrice Lazzerini*
	Experiences and Lessons Learned from a Crowdsourced-Remote Hybrid User Survey Framework (Poster Paper) *Cise Midoglu, Andrea Storås, Saeed Sabet, Malek Hammou, Steven Alexander Hicks, Inga Strümke, Michael Alexander Riegler, Carsten Griwodz and Paal Halvorsen*
Session 21: **ISM-9 - Machine Learning and Omnidirectional Media** **(**Chair: Giovanni Pilato**)**	An artificial neural network-based system for detecting machine failures using a tiny sound dataset: A case study (Short Paper) *Thanh Tran, Sebastian Bader and Jan Lundgren*
	Contextualized Styling of Images for Web Interfaces using Reinforcement Learning (Short Paper) - Virtual Presentation *Pooja Guhan, Saayan Mitra, Somdeb Sarkhel, Stefano Petrangeli, Ritwik Sinha, Viswanathan Swaminathan, Aniket Bera and Dinesh Manocha*
	Benchmarking the Second Edition of the Omnidirectional Media Format Standard (Short Paper) *Burak Kara, Mehmet N. Akcay, Ali C. Begen, Saba Ahsan, Igor D.D. Curcio, Emre Aksu and Kashyap Kammachi-Sreedhar*
	Optimizing storage and delivery of Omnidirectional Videos in Viewport-dependent streaming (Short Paper) *Kashyap Kammachi Sreedhar, Miska Hannuksela, Emre Aksu, Lauri Ilola and Lukasz Kondrad*
Session 23: **ISM-10 - Multimedia Applications** **(**Chair: Francesco Pistolesi**)**	Using Web 3D and WebXR Game to Enhance Engagement in Primary School Learning (Short Paper) *Xi Guo and Imran Mogra*

	Effectiveness of Machine Learning on Heartprint Biometric Recognition with Multisession ECG Signals (Short Paper) *Md. Saiful Islam, Haikel Alhichri, Yakoub Bazi, Nassim Ammour, Naif Alajlan and Rami M. Jomaa*
	A Topological Approach for Facial Region Segmentation in Thermal Images (Short Paper) *Michael Lilley, Kapotaksha Das, Kais Riani and Mohamed Abouelenien*

Detailed Virtual Sessions (IEEE ISM 2022)

Session	Title
Session A: **ISM-V1 - Augmented Reality / Virtual Reality** **(**Chair: Stefano Petrangeli**)**	A Comparative Study of Interactive Environments for Investigative Interview of A Virtual Child Avatar (Regular Paper) *Syed Zohaib Hassan, Saeed Shafiee Sabet, Pegah Salehi, Hayley Manalang Ko, Ingvild Riiser, Miriam Johnson, Gunn Astrid Baugerud, Michael Alexander Riegler and Pål Halvorsen*
	Evaluation of Sampling Algorithms for Pairwise Subjective Assessment Evaluations (Short Paper) *Shima Mohammadi and Joao Ascenso*
	Hand Tracking vs Motion Controllers: The effects on Immersive Virtual Reality Game Experience (Poster Paper) *Sofia Neamoniti and Vlasios Kasapakis*
	On The Exploration of Vision Transformers in Remote Sensing Building Extraction (Poster Paper)

	Georgios - F. Angelis, Armando Domi, Alexandros Zamichos, Maria Tsourma, Anastastios Drosou, Ioannis Manakos and Dimitrios Tzovara
	Contextually Guided Convolutional Neural Networks for Learning Most Transferable Representations (Short Paper) *Olcay Kursun, Semih Dinc and Oleg V. Favorov*
	Towards Accurate Positioning in Multiuser Augmented Reality on Mobile Devices (Short Paper) *Na Wang, Haoliang Wang, Stefano Petrangeli, Viswanathan Swaminathan, Fei Li and Songqing Chen*
	Emotionally Expressive Motion Controller for Virtual Character Locomotion Animations (Poster Paper) *Diogo Silva, Pedro Santos and João Dias*
	Towards Efficient and Tunable Video Super Resolution for Faster Streaming (Poster Paper) *Himanshu Gupta, Sowmya Vasuki Jallepalli, Pratik Mulchandani, Chirag Trasikar, Chetan Manjesh, Vishy Swaminathan and Stefano Petrangeli*
Session D: **ISM-V2 - Melody Generation and Retrieval** **(**Chair: TBD**)**	Singing Melody Extraction Based on Combined Frequency-Temporal Attention and Attentional Feature Fusion with Self-Attention (Regular Paper) *Xi Qi, Lihua Tian, Chen Li and Hui Song*
	Retaining Semantics in Image to Music Conversion (Regular Paper) *Zeyu Xiong, Pei-Chun Lin and Amin Farjudian*
	Deep Attention-Based Alignment Network for Melody Generation from Incomplete Lyrics (Short Paper) *Gurunath Reddy M, Zhe Zhang, Yi Yu, Florian Harscoet, Simon Canales and Suhua TangS. Qasim Abbas, S. Jannat Shirazi and Yi-Ping Phoebe Chen*
	Performance Analysis of Deep Learning Based Speech Quality Model with Mixture of Features (Short Paper) *Rahul Jaiswal*
	HSD: A hierarchical singing annotation dataset (Poster Paper) *Xiao Fu, Xin Yuan and Jinglu Hu*

	Comparison of Multi-Scale Speaker Vectors and S-Vectors for Zero-Shot Speech Synthesis (Poster Paper) *Tristin Cory and Razib Iqbal*
Session E: **ISM-V3 - Image Processing (I)** **(**Chair: Gang Wu**)**	Roundwood tracking from the Forest to the Sawmill using filter approaches to highlight the annual ring pattern (Regular Paper) *Georg Wimmer, Rudolf Schraml, Alexander Petuschnigg and Andreas Uhl*
	Task-Oriented Near-Lossless Burst Compression (Short Paper) *Weixin Jiang, Gang Wu, Viswanathan Swaminathan, Stefano Petrangeli, Haoliang Wang, Ryan Rossi and Nedim Lipka*
	Cloud Region Segmentation from All Sky Images using Double K-Means Clustering (Poster Paper) *Semih Dinc, Randy Russell and Luis Alberto Cueva Parra*
	Toward Energy Efficient Determination of Curvature in Range Images (Poster Paper) *Jacob Hauenstein and Timothy Newman*
Session F: **ISM-V4 - Image Processing (II)** **(**Chair: Mouzhi Ge**)**	Attention-driven RetinaNet for Parasitic Egg Detection (Regular Paper) *Khoa Pho, Han Lam, Tung Le, Huy Tien Nguyen and Atsuo Yoshitaka*
	Impact of Conventional and Deep Learning-based Point Cloud Geometry Coding on Deep Learning-based Classification Performance (Regular Paper) *Abdelrahman Seleem, André F. R. Guarda, Nuno M. M. Rodrigues and Fernando Pereira*
	Actor-Critic Bilateral Filter for Noise-Robust Image Smoothing (Short Paper) *Yi-Jie Chen, Yen-Chiao Wang, Bo-Hao Chen, Hsiang-Yin Cheng and Jia-Li Yi*
	Conditional GAN for Small Datasets (Short Paper) *Komei Hiruta, Ryusuke Saito, Taro Hatakeyama, Atsushi Hashimoto and Satoshi Kurihara*

Detailed In-Person Sessions (IEEE IRC 2022)

Session	Title
Session 2: **IRC-1 - Mobile Robots I** (Chair: Eric Matson)	Multimodal Data Collection System for UAV-based Precision Agriculture Applications (Regular Paper) *Emmanuel K. Raptis, Georgios D. Karatzinis, Marios Krestenitis, Athanasios Ch. Kapoutsis, Konstantinos Ioannidis, Stefanos Vrochidis, Ioannis Kompatsiaris and Elias B. Kosmatopoulos*
	Towards Gesture-based Cooperation with Cargo Handling Unmanned Aerial Vehicles: A Conceptual Approach (Regular Paper) *Marvin Brenner and Peter Stütz*
	UAV Payload Detection Using Deep Learning and Data Augmentation (Regular Paper) *Ilmun Ku, Seungyeon Roh, Gyeongyeong Kim, Charles Taylor, Yaqin Wang and Eric Matson*
	Real-Time Learning of Wing Motion Correction in an Unconstrained Flapping-Wing Air Vehicle (Regular Paper) *John Gallagher, Eric Matson and Ryan Slater*
Session 4: **IRC-2 - Modeling and Simulation** (Chair: Swarnabha Roy)	A Comparative Analysis of Collaborative Robots for Autonomous Mobile Depalletizing Tasks (Short Paper) *Alessio Saccuti, Riccardo Monica and Jacopo Aleotti*
	Teleoperation of an Industrial Robot using Public Networks and 5G SA Campus Networks (Short Paper) *Jannik Rohde, Quy Luu Duc, Talib Sankal, Roman Dumitrescu, Robert H. Schmitt, Christoph Jürgenhake and Olga Meyer*
	Performance Evaluation of Containerized Systems before and after using Kubernetes for Smart Farm Visualization Platform based on LoRaWAN (Short Paper) *Sungjin Park, Haegyeong Im, Gayoung Yeom, Dayeon Won, Minji Kim, Xavier Lopez and Smith Anthony*
	Mechanical Exploration of The Design of Tactile Fingertips via Finite Element Analysis (Short Paper) *Yihua Wang, Xiaowei Shi and Longhui Qin*
	A Flexible MATLAB/Simulink Simulator for Robotic Floating-base Systems in Contact with the Ground (Short Paper) *Nuno Guedelha, Venus Pasandi, Giuseppe L'Erario, Silvio Traversaro and Daniele Pucci*
	Distributed Computation and Dynamic Load balancing in Modular Edge Robotics (Short Paper) *Swarnabha Roy, Dharmendra Baruah, Steven Hernandez and Stavros Kalafatis*

Session 6: **IRC-3 - Perception** (Chair: Florian Spiess)	Gaze-based Object Detection in the Wild (Short Paper) *Daniel Weber, Wolfgang Fuhl, Andreas Zell and Enkelejda Kasneci*
	6D-pose estimation and 3D object reconstruction from 2D shape for robotic grasping of objects (Short Paper - Virtual Presentation) *Marcell Wolnitza, Osman Kaya, Tomas Kulvicius, Florentin Wörgötter and Babette Dellen*
	Experimental Assessment of Feature-based Lidar Odometry and Mapping (Short Paper) *Asad Ullah Khan, Ernesto Fontana, Dario Lodi Rizzini and Stefano Caselli*
	A data-driven sensor model for LIDAR range measurements used for mobile robot navigation (Short Paper) *Florian Spiess, Norbert Strobel, Tobias Kaupp and Samuel Kounev*
	Sensor-guided motions for robot-based component testing (Short Paper) *Julian Hanke, Christian Eymüller, Alexander Poeppel, Julia Reichmann, Markus Sause and Wolfgang Reif*
Session 8: **IRC-4 - Poster Paper Session** (Chair: Eric Matson)	GA-DRL: Genetic Algorithm-Based Function Optimizer in Deep Reinforcement Learning for Robotic Manipulation Tasks (Poster Paper - Virtual Presentation) *Adarsh Sehgal, Nicholas Ward, Hung La, Christos Papachristos and Sushil Louis*
	Beacon-based Indoor Fire Evacuation System using Augmented Reality and Machine Learning (Poster Paper) *Hwawon Lee, Dohyun Chung, Seongmin Kim, Jiwon Lim, Yoonha Bahng, Suhyun Park and Anthony Smith*
	Deep Learning Based Malicious Drone Detection Using Acoustic and Image Data (Poster Paper) *Juann Kim, Dongwhan Lee, Youngseo Kim, Heeyeon Shin, Yeeun Heo, Yaqin Wang and Eric T. Matson*
	Time Series Classification of IMU Data for Point of Impact Localization (Poster Paper) *Richard Krieg and Marc Ebner*
	UAV Velocity Prediction Using Audio data (Short Paper) *Eunyoung Bang, Yeongmin Seo, Jeongyoun Seo, Raymond Zeng, Aminata Niang, Yaqin Wang and Eric T Matson*

Session 10: **IRC-5 - Best Paper Session** (Chair: TBD)	External Torque Estimation for Mobile Manipulators: A Comparison of Model-based and LSTM Methods (Regular Paper) *Matthias Stueben, Alexander Poeppel and Wolfgang Reif*
	State Estimation for Hybrid Locomotion of Driving-Stepping Quadrupeds (Regular Paper) *Mojtaba Hosseini, Diego Rodriguez and Sven Behnke*
	Variability Analysis for Robot Operating System Applications (Regular Paper - Virtual) *André Santos, Alcino Cunha, Nuno Macedo, Sara Melo and Ricardo Pereira*
	Robust Photogrammetry-Based Online Pose Correction of Industrial Robots Employing Adaptive Integral Terminal Fractional-Order Super-Twisting Algorithm (Regular Paper - Virtual) *Ehsan Zakeri and Wen-Fang Xie*
Session 13: **IRC-6 - Modeling and Simulation** (Chair: Minh Trinh)	Analytical Solutions for Two-Contact Whole-Arm Manipulation Inverse Kinematics for Manipulators with Link Offsets (Regular Paper) *Pascal Hinrichs, Minh Tam Vu, Christian Kowalski, Max Pfingsthorn and Andreas Hein*
	Autonomous Golf Putting with Data-Driven and Physics-Based Methods (Regular Paper) *Annika Junker, Niklas Fittkau, Julia Timmermann and Ansgar Trächtler*
	Localization in Seemingly Sensory-Denied Environments through Spatio-Temporal Varying Fields (Regular Paper) *Jose Fuentes, Leonardo Bobadilla and Ryan N. Smith*
	Task Mapping for Hardware-Accelerated Robotics Applications using ReconROS (Regular Paper) *Christian Lienen and Marco Platzner*
	Efficient Representations of Object Geometry for Reinforcement Learning of Interactive Grasping Policies (Regular Paper) *Malte Mosbach and Sven Behnke*
	Dynamics Modeling of Industrial Robots Using Transformer Networks (Regular Paper) *Minh Trinh, Mohamed Behery, Mahmoud Emara, Simon Storms, Christian Brecher and Gerhard Lakemeyer*

Session 15: **IRC-7 - Mobile Robots II** (Chair: Francisco Cuellar)	Generating Robot-Dependent Cost Maps for Off-Road Environments Using Locomotion Experiments and Earth Observation Data (Short Paper) - Virtual Presentation *Matthias Eder, Raphael Prinz, Florian Schöggl and Gerald Steinbauer-Wagner*
	Design and Implementation of Telemarketing Robot with Emotion Identification for Human-Robot Interaction (Short Paper) *Diego Arce, Jose Balbuena, Daniel Menacho, Luis Caballero, Enzo Cisneros, Dario Huanca, Marcelo Alvites, Cesar Beltran and Francisco Cuellar*
	Pedestrian Intention Anticipation with Uncertainty Based Decision for Autonomous Driving (Short Paper) - Virtual Presentation *João Correia, Plinio Moreno and João Avelino*
	A Large-Scale UAV Audio Dataset and Audio-Based UAV Classification Using CNN (Short Paper) - Virtual Presentation *Yaqin Wang, Zhiwei Chu, Ilmun Ku, E. Cho Smith and Eric T Matson*
Session 17: **IRC-8 - Perception I** (Chair: Andreas Kriegler)	PrimitivePose: 3D Bounding Box Prediction of Unseen Objects via Synthetic Geometric Primitives (Regular Paper) *Andreas Kriegler, Csaba Beleznai, Markus Murschitz, Kai Göbel and Margrit Gelautz*
	Human Monitoring during Arm Motion using Dual-fisheye Camera Mounted on Robot Elbow (Regular Paper) *Gustavo Alfonso Garcia Ricardez, Tomoki Nagatani, Jun Takamatsu and Tsukasa Ogasawara*
	Object-level 3D Semantic Mapping using a Network of Smart Edge Sensors (Regular Paper) *Julian Hau, Simon Bultmann and Sven Behnke*
	Self-Calibrating Anomaly and Change Detection for Autonomous Inspection Robots (Regular Paper) *Sahar Salimpour, Jorge Peña Queralta and Tomi Westerlund*
Session 20: **IRC-9 - Perception II** (Chair: Luca Muratore)	Cost-Effective Solution for Fallen Tree Recognition Using YOLOX Object Detection (Regular Paper) *Hearim Moon, Eunsik Park, Junghyun Moon, Juyeong Lee, Minji Lee, Doyoon Kim, Minsun Lee and Eric T. Matson*
	Learning Implicit Probability Distribution Function for Symmetric Orientation Estimation from RGB Images Without Pose Labels (Regular Paper) *Arul Selvam Periyasamy, Luis Denninger and Sven Behnke*
	An Improved Approach to 6D Object Pose Tracking in Fast Motion Scenarios (Regular Paper) *Yanming Wu, Patrick Vandewalle, Peter Slaets and Eric Demeester*
	ZigZag Algorithm: Scanning an Unknown Maze by an Autonomous Drone (Short Paper) *Jeryes Danial and Yosi Ben Asher*

Session 22: **IRC-10 - Mobile Robots III** (Chair: Joshua Springer)	Practical Validation and Investigation of Autonomous Source Localization with Ground Robots (Short Paper) *Marcus Dorau, Mirco Alpen and Joachim Horn*
	Autonomous Precision Drone Landing with Fiducial Markers and a Gimbal-Mounted Camera for Active Tracking (Short Paper) *Joshua Springer and Marcel Kyas*
	Scenario and system concept for a firefighting UAV-UGV team (Short Paper) *Merlin Stampa, Uwe Jahn, Daniel Fruhner, Tim Streckert and Christof Roehrig*
	Tracking Visual Landmarks of Opportunity as Rally Points for Unmanned Ground Vehicles (Short Paper) *Martin Rebert, Gwenaël Schmitt and David Monnin*
	Coverage Path Planning and Precise Localization for Autonomous Lawn Mowers (Short Paper) - Virtual Presentation *Maria Höffmann, Joachim Clemens, David Stronzek-Pfeifer, Ruggero Simonelli, Andreas Serov, Sven Schettino, Margareta Runge, Kerstin Schill and Christof Büskens*
NFCR Workshop (Chair: Giovanni Pilato)	Evaluation of Orientation Ambiguity and Detection Rate in April Tag and WhyCode (Workshop Paper) *Joshua Springer and Marcel Kyas*
	Training a robot with limited computing resources to crawl using reinforcement learning (Workshop Paper) *Moritz Heimbach, Jan Weber and Marco Schmidt*
	On Embedding a Dataflow Architecture in a Multi-Robot System (Workshop Paper) - Virtual Presentation *Menaxi J Bagchi, Divya D. Kulkarni, Shivashankar B. Nair and Pradip K. Das*
	Labeling Custom Indoor Point Clouds Through 2D Semantic Image Segmentation (Workshop Paper) *Shayan Ahmed, Jonas Gedschold, Tim-Erich Wegner, Giovanni Del Galdo, Johannes Trabert and Adrian Sode.*
	Privacy Protection and Regulatory Aspects in the context of Medical Apps (Workshop Paper) *Daniela D'Auria, Fabio Persia*
PhD Workshop (0) (Chair: John Gallagher)	Towards advanced robotic manipulation (PhD Workshop Paper) *Francisco Roldan Sanchez, Stephen Redmond, Kevin McGuinness and Noel O'Connor*
	Object pose estimation in industrial environments using a synthetic data generation pipeline (PhD Workshop Paper) *Manuel Belke, Philipp Blanke, Simon Storms and Werner Herfs*

CHARMS Workshop + PhD Workshop (II) (Chair: John Gallagher)	Human-Aware Waypoint Planner for Mobile Robot in Indoor Environments (Workshop Paper) *Sungwoo Yang, Sumin Kang, Myunghyun Kim and Donghan Kim*
	Implemention of Reinforcement Learning Environment for Mobile Manipulator Using Robo-gym (Workshop Paper) *Myunghyun Kim, Sungwoo Yang, Sumin Kang, Wonha Kim and Donghan Kim*
	Outdoor visual SLAM and Path Planning for Mobile-Robot (Workshop Paper) *Seongil Heo, Jueun Mun, Jiwoong Choi, Jiwon Park and Eric Matson*
	Indoors Traversability Estimation with Less Labels for Mobile Robots (Workshop Paper) *Christos Sevastopoulos, Michail Theofanidis, Mohammad Zaki Zadeh, Sneh Acharya, Stasinos Konstantopoulos, Vangelis Karkaletsis and Fillia Makedon*
	Neural Network Control of Industrial Robots Using ROS (PhD Workshop Paper) *Minh Trinh and Christian Brecher*
	Autonomous Multirotor Landing on Landing Pads and Lava Flows (PhD Workshop Paper) *Joshua Springer*

Detailed Virtual Sessions (IEEE IRC 2022)

Session	Title
Session B: **IRC-V1 - Industrial Robotics and Applications** (Chair: Hung La)	A Distributed Deep Learning Approach for A Team of Unmanned Aerial Vehicles for Wildfire Tracking and Coverage (Regular Paper) *Kripash Shrestha, Hung La and Hyung-Jin Yoon*
	CNN-based Feature Extraction for Robotic Laser Scanning of Weld Grooves in Tubular T-joints (Short Paper) *Øyvind Mjølhus, Andrej Cibicik, Eirik Njaastad and Olav Egeland*
	Terrain Dependent Power Estimation for Legged Robots in Unstructured Environments (Short Paper) *Christopher Allred, Huzeyfe Kocabas, Mario Harper and Jason Pusey*
	Survey on Robotic Systems Integration (Poster Paper) *Nadia Hammoudeh Garcia and Andreas Wortmann*
	An approach to apply Automated Acceptance Testing for Industrial Robotic Systems (Poster Paper) *Marcela Gonçalves dos Santos, Fabio Petrillo, Sylvain Hallé and Yann-Gaël Guéhéneuc*
Session C: **IRC-V2 - Robot Programming and Control** (Chair: Kazuhiko Takahashi)	Remarks on Direct Controller using a Commutative Quaternion Neural Network (Short Paper) *Kazuhiko Takahashi, Sung Tae Hwang, Kuya Hayashi, Masafumi Yoshida and Masafumi Hashimoto*
	Multi-View Contrastive Learning from Demonstrations (Regular Paper) *André Correia and Luís A. Alexandre*
	Human-inspired Video Imitation Learning on Humanoid Robot (Regular Paper) *Chun Hei Lee, Nicole Chee Lin Yueh and Kam Tim Woo*
	Voluntary Interaction Detection for Safe Human-Robot Collaboration (Regular Paper) *Francesco Grella, Alessandro Albini and Giorgio Cannata*
	Synchronisation in Extended Robot State Automata (Short Paper) *Lukas Sauer and Dominik Henrich*

Session G: **IRC-V3 - Path Planning and Autonomous Driving (I)** (Chair: Victor Parque)	NIAR: Interaction-aware Maneuver Prediction using Graph Neural Networks and Recurrent Neural Networks for Autonomous Driving (Regular Paper) *Petrit Rama and Naim Bajcinca*
	A virtual suturing task: proof of concept for awareness in autonomous camera motion (Regular Paper) *Nicolò Pasini, Andrea Mariani, Adnan Munawar, Elena De Momi and Peter Kazanzides*
	On Path Regression with Extreme Learning and the Linear Configuration Space (Regular Paper) *Victor Parque and Tomoyuki Miyashita*
	Real-time Multi-Objective Trajectory Optimization (Short Paper) *Ilya Gukov and Alvis Logins*
Session H: IRC-V4 - Path Planning and Autonomous Driving (II) (Chair: Tauhidul Alam)	Single Frame Lidar-Camera Calibration Using Registration of 3D Planes (Regular Paper) *Ashutosh Singandhupe, Hung La and Quang Ha*
	DVF-RRT: Randomized Path Planning on Predictive Flow Fields (Regular Paper) *Tauhidul Alam, Fabian Okafor, Ankit Patel and Abdullah Al Redwan Newaz*
	Path Smoothing with Deterministic Shortcuts (Short Paper) *Maryam Khazaei Pool, Carlos Diaz Alvarenga and Marcelo Kallmann*
	Smart Robot Vision System for Plant Inspection for Disaster Prevention (Short Paper) *Saifuddin Mahmud*
PhD Workshop (I) (Chair: TBD)	Intelligent Adaptative Robotic System for Physical Interaction Tasks *Benjamin Tapia Sal Paz*
	Robust Localization for Mobile Robots in Dynamic Environments based on Multi-Sensor Fusion *Bibiana Fariña Jerónimo (not presented)*

Detailed In-Person Sessions (IEEE BigMM 2022)

Session	Title
Session 9: **BigMM-1 - Modelling and Simulation** (Chair: TBD)	Improving Interactive Image Segmentation using a Novel Weighted Loss Function with an Adaptive Click Size and Two-Stream Fusion (Regular Paper) *Ragavie Pirabaharan and Naimul Khan*
	Content-Aware Adaptive Point Cloud Delivery (Regular Paper) *Yassin Alkhalili, Thomas Gruczyk, Tobias Meuser, Antonio Fernandez Anta, Ahmad Khalil and Andreas Mauthe*
	Deep Learning-based Point Cloud Joint Geometry and Color Coding: Designing a Perceptually-Driven Differentiable Training Distortion Metric (Regular Paper) - Virtual Presentation *Luís Coelho, André F. R. Guarda and Fernando Pereira*

Session 16: **BigMM-2 - Invited Papers** (Chair: TBD)	Question Answering over Knowledge Base using Variational Auto-Encoder (Invited Paper) *Sai Sharath, Japa and Sarah, Green*
	Exploring Adaptive Attention In-memory Transformer Applied to Coherent Video Paragraph Captioning (Invited Paper) *Leonardo Vilela Cardoso, Silvio Jamil F. Guimarães, Zenilton K. G. Patrocínio Jr.*

Detailed Virtual Sessions (IEEE BigMM 2022)

Session	Title
Session BMM-V1: **Deep Learning** (Chair: TBD)	SVGraph: Learning Semantic Graphs from Instructional Videos (Regular Paper) *Madeline Chantry Schiappa and Yogesh Rawat*
	FLUID: Formulated LiqUid Instability Dataset (Regular Paper) *Maurizio De Micco, Fabio Zonfrilli, Massimiliano Maria Villone, Giovanni Poggi, Luisa Verdoliva and Vincenzo Guida*
	Mobile Gait Analysis (Regular Paper) *Owen Agius and Alexiei Dingli*
	Deep Metric Learning for Histopathological Image Classification (Regular Paper) *Salvatore Calderaro, Giosuè Lo Bosco, Riccardo Rizzo and Filippo Vella*
Session BMM-V2: **Applications** (Chair: TBD)	Content-based Graph Privacy Advisor (Regular Paper) *Dimitrios Stoidis and Andrea Cavallaro*
	A Dynamically Weighted Loss Function for Unsupervised Image Segmentation (Regular Paper) *Boujemaa Guermazi, Riadh Ksantini and Naimul Khan*
	Multi-turn Query with Similarity Feedback Facilitates Multimodal Video Clip Retrieval (Regular Paper) *Shou-Heng Tsai, Yuan-Long Peng and Wei-Po Lee*
	Explainable AI at Work! What Can It Do for Smart Agriculture? (Regular Paper) *Andrea Cartolano, Alfredo Cuzzocrea, Giovanni Pilato and Giorgio Mario Grasso*

Session BMM-V3: Data Analysis (Chair: TBD)	TACS: A Calibrated Highway Surveillance Dataset for Traffic Analysis (Regular Paper) *Audhav Durai, Siddhartha Rangavajjula, Sachin Satishkumar and Rusheel Nadipally*
	µBoost: An Effective Method for Solving Indic Multilingual Text Classification Problem (Regular Paper) *Manish Pathak and Aditya Jain*
	Extended Computation Method of Optimal Kick-pass Plays while Considering Kickers' Run Plays in Rugby Sevens (Short Paper) *Shintaro Ryuzaki, Kotaro Yashiro and Yohei Nakada*
	Computational Method for Determining Optimal Dribbling Routes in Basketball (Poster Paper) *Hibiki Sakabe and Yohei Nakada*
	Prototype Tactical Board Tool for Generating Optimal Offensive Patterns in Rugby Sevens (Poster Paper) *Kotaro Yashiro and Yohei Nakada*
	Tackling Cookieless Domain Recommendation for Digital Advertising Targetting (Poster Paper) *Aditya Jain, Manish Pathak, and Divya Prabha M*
	Behavioral Analysis for User Satisfaction (Poster Paper) *Michela Chimienti, Ivan Danzi, Vincenzo Gattulli, Donato Impedovo, Giuseppe Pirlo and Davide Veneto*
Session BMM-V4: Invited Papers (Chair: Mike Shou)	YOLO-based Deep Learning to Automated Colony Counting (Invited Paper) *Jaken Whipp, Aijuan Dong*
	Leveraging Large Public Multimedia Datasets for Fine-tuning Content Moderation Models (Invited Paper) *Yiannis Sarridis, Christos Koutlis, Olga Papadopoulou, Symeon Papadopoulos*
	A Generative Approach to Mitigate Bias in Face Matching using Learned Latent Structure (Invited Paper) *Jamal Alasadi, Ahmed AlHilli, Pradeep K. Atrey, and Vivek K. Singh*
Session BMM-V5: Invited Papers (Chair: TBD)	Multimodal Content Veracity Assessment with Bidirectional Transformers and Self-Attention-based Bi-GRU Networks (Invited Paper) *Jenq-Haur Wang, Chin-Wei Huang, and Mehdi Norouzi*
	Class-aware Pseudo Labelling for Non-random Missing Labels in Semi-supervised Learning (Invited Paper) *Qian Gui, Xinting Wu, Baoning Niu*
	A/B Testing for Better Instructions of Crowdsourcing using Virtual and Real Workers (Invited Paper) *Yu Suzuki and Reina Fujiura*