



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)



3rd International Conference on Robotics, Control, Automation and Artificial Intelligence (RCAAI 2024)

Theme : Sustainability through automation
14-16 October 2024

Program Schedule of RCAAI-2024

Date	Time	Session	Details
October 14, 2024 (Monday), Day 1	08:30 to 09:30	Registration	Venue: M.V. Seminar Hall, MIT, Manipal
	09:30 to 10:30	Inauguration	Venue: M.V. Seminar Hall, MIT, Manipal
	11:00 to 12:30	Parallel Sessions -1	Stream -1: Virtual Session Stream -2: Virtual Session Stream- 3: Physical Session – Robotics Lab, MIT Manipal
	12:30 to 14:00	Lunch Break	
	14:00 to 15:00	Keynote Talk-1 Prof. Vikas Kumar Birmingham City University, UK.	Topic: Empowering SMEs: Leveraging Digital Technologies for a Sustainable Circular Economy. Link - https://meet.google.com/iux-yciv-buc
	15:00 to 16:30	Parallel Sessions -2	Stream -4: Virtual Session Stream -5: Physical Session – Hydraulics Lab, MIT Manipal Stream- 6: Virtual Session
October 15, 2024 (Tuesday), Day 2	09:30 to 10:45	Keynote Talk-2 Prof. T. Asokan, IIT Madras.	Topic: Design and Control of Field and service Robots: Challenges and Opportunities. Link - https://meet.google.com/ctg-foro-irr
	11:00 to 12:30	Keynote Talk-3 Prof. Somashekhar SH, IIT Madras.	Topic: Robotics: Past, present, and future. Link - https://meet.google.com/evn-ehra-zig
	12:30 to 14:00	Lunch Break	
	14:00 to 15:00	Keynote Talk-4 Mr. Ashish Ranjan, CDO, NBC Bearings.	Topic: Manufacturing today: From brownfield shopfloors to Connect Factory state. Link - https://meet.google.com/vze-sknq-pos
	15:00 to 17:00	Parallel Sessions -3	Stream-7: Virtual Session Stream-8: Physical Session - Robotics Lab, MIT Stream-9: Virtual Session Stream-10: Virtual Session
October 16, 2024 (Wednesday) Day 3	09:30 to 10:30	Keynote Talk-5 Mr. Jose Carlos, Director Digital Twin, Schnieder Electric.	Topic: The Role of Digital Twins in Shaping a Sustainable Future. Link - https://meet.google.com/typ-ncyz-hxy
	10:30 to 11:30	Keynote Talk-6 Mr. Krishnan Ramesh, Senior data Scientist, Volvo Group	Topic: Automation and AI Link - https://meet.google.com/gdz-iven-hou
	11:30 to 12:30	Keynote Talk-7 Mr. Richard Madathil Data Scientist, Volvo Group.	Topic: Use of ML models (DNNs, Graph Neural Networks etc) in Powertrain design, development, and application. Link - https://meet.google.com/xvc-qmhy-qge
	14:30	Closing Ceremony	Venue: M.V. Seminar Hall, MIT, Manipal.

Parallel Sessions of Technical Tracks

DAY 1 (Morning) 14 October 2024		
Time	Paper ID	Title
SESSION 1 (Virtual) - 11:00 – 12:30 PM		Link: https://meet.google.com/cco-cwhp-evj
11:00 – 11:15	41	Predictive Modeling for Chronic Kidney Disease with Machine Learning Algorithms
11:15 – 11:30	16	Habitation Prediction from A Satellite Image Using Deep Learning Techniques
11:30 – 11:45	55	Design and Implementation of a Cost-Effective Line Follower Robot Without Microcontroller.
11:45 – 12:00	79	SIDVR: Semantic Intelligence Driven Video Recommendation Algorithm for Fashion
12:00 – 12:15	76	SHCPSI: Strategic Hybrid Classification Powered Semantic Intelligence Framework for Advertisement Recommendation
12:15 – 12:30	77	KCMTI: A Framework for Knowledge Centric Microblog Tagging Integrating Incremental Knowledge Addition Paradigm and Quantitative Semantic Reasoning for Innovation and Strategy as a Domain of Choice
SESSION 2 (Virtual) - 11:00 – 12:30 PM		Link: https://meet.google.com/khz-nqur-mpv
11:00 – 11:15	101	Retinal Vessel Analysis to Detect Hypertension and Predict Cardiovascular Diseases
11:15 – 11:30	104	Revolutionizing Retinal Health: A Deep Dive on AI Powered Solutions for Screening Diabetic Retinopathy
11:30 – 11:45	32	Comparative Study of Classical and Hybrid Quantum Neural Networks in Protein Sequence Classification
11:45 – 12:00	107	Efficient Extraction and Classification of Room Information from 2D Floor Plans Using a Hybrid Binary Decision Tree Approach with DBSCAN Clustering and Alpha Shape
12:00 – 12:15	31	CSSVD: A Novel Context-Aware Recommendation Algorithm to Address Cold Start and Data Sparsity
12:15 – 12:30	44	Jasminum Sambac L. Alternaria Leaf Blight Disease Detection and Classification Using Deep Learning Techniques
SESSION 3 (Physical) - 11:00 – 12:30 PM		Venue: Robotics Lab, MIT Manipal
11:00 – 11:15	99	Exploring Attack Detection in Autonomous Vehicles: A Pilot Study using crysys Dataset
11:15 – 11:30	35	Impact on Radial Distribution System by Simultaneous Allocation of Distributed Generators and Electric Vehicle Charging Stations
11:30 – 11:45	26	Improvement of geolocation mobile application development for emergency situations
11:45 – 12:00	62	Artificial Intelligence Supporting Gender Equality
12:15 – 12:30	12	An AI-driven approach using Machine Learning and Deep Learning for effective Healthcare Waste Management.

DAY 1 (Afternoon) 14 October 2024		
SESSION 4 (Virtual) - 15:00 – 16:30 PM		Link : https://meet.google.com/mij-vtye-sjj
15:00 – 15:15	95	Comparative Analysis of Machine Learning Models For Stock Market Prediction
15:15 – 15:30	87	Mitigating the Threat of DDoS Attacks: Emerging Strategies and Algorithms
15:30 – 15:45	84	HealthVault: Trustworthy Medical Records on the Blockchain
15:45 – 16:00	6	Development Of A Micro-Controller Based Refrigeration Test Rig
16:00 – 16:15	115	The Future of Diabetes Care: A Data-Driven Journey
16:15 – 16:30	11	Simulation and Optimisation of Automated Robot Workstation of Car Body-in-White using Process Simulate
SESSION 5 (Physical) - 15:00 – 16:30 PM		Venue: Robotics Lab, MIT Manipal
15:00 – 15:15	39	A Virtual Reality Interface based tele-operated Bionic Arm Control for Telepresence
15:15 – 15:30	45	Review on Soft Robotics for Grippers
15:30 – 15:45	46	Advances in Natural Language-Based Human-Robot Interaction: Integrating Large Language Models, Multi-Modal Data, and User-Centric Design
15:45 – 16:00	108	Automation Tools for Patient Tracking: A Comprehensive Review Toward Establishing a Digital Twin for a Sustainable Healthcare System
16:00 – 16:15	51	A Review on Linear Induction Motors in Transit Application
16:15 – 16:30	113	Mapping and Navigation of Custom Robot Using Improved A* Algorithm in ROS
SESSION 6 (Virtual) - 15:00 – 16:30 PM		Link: https://meet.google.com/mhc-tuaz-yoe
15:00 – 15:15	103	Next-Gen AI-Powered Marketing Analytics: GNN-Autoencoder Model with RFE for enhanced Customer Interaction
15:15 – 15:30	10	Bridging Theory and Practice: A Comprehensive Study of Path Planning Techniques for Multi-Degree-of-Freedom Robotic Manipulators
15:30 – 15:45	19	A Simulation Framework for Surgical Subtask Automation
15:45 – 16:00	13	Cognitive Computing Based Robot for Teaching and Learning
16:00 – 16:15	71	Robust Forward Kinematic Algorithm for Control of 6-DoF Parallel Robot
16:15 – 16:30	97	Investigation of Tribological Properties of Friction Material by using Experimental and Artificial Neural Network Technique
16:30 – 16:45	43	Comparative Analysis of MLP and KAN Models for solving Inverse Kinematics of a 3- R Manipulator
SESSION 7 (Virtual) - 15:00 – 16:30 PM		Link: https://meet.google.com/fxp-tmm-feo
15:00 – 15:15	98	Experimental Investigation of Gear and Bearing By Fast Fourier Transform and Artificial Neural Network for Fault Detection
15:15 – 15:30	110	Multimodal System For Monitoring Mental And Emotional State With Deep Learning Model
15:30 – 15:45	119	Sentinel-1 SLC Data Preprocessing and Classification for Improved Polarimetric Analysis in Earth Observation Applications
15:45 – 16:00	114	Selenium as a Website Test Automation Tool: A Comprehensive study
16:00 – 16:15	15	Predictive Modeling for Chronic Kidney Disease with Machine Learning Algorithms
16:15 – 16:30	18	T-EEGNet: A Transformer-Enhanced EEGNet Model for Accurate Diagnosis of Alzheimer's Disease and Frontotemporal Dementia

DAY 2 (Afternoon) 15 October 2024		
Time	Paper ID	Title
SESSION 8 (Virtual) - 15:00 – 17:00 PM		Link: https://meet.google.com/miw-woaz-fze
15:00 – 15:15	78	Unveiling Social Media's Underworld: Machine Learning Empowered Drug Detection
15:15 – 15:30	37	Evaluating the Efficacy of Machine Learning Models in Bearing Fault Classification
15:30 – 15:45	90	A Comprehensive Survey of Machine Learning Approaches for Predicting Psychological Well-Being among Adolescents
15:45 – 16:00	72	A Comparative Analysis of Classical and Quantum Computing Models for Email Spam Classification
16:00 – 16:15	75	Comprehensive Multiple Diseases Prediction Using Advanced Machine Learning Techniques
16:15 – 16:30	105	Eco Drop: Revolutionizing Waste Disposal for a Greener Future
16:30 – 16:45	69	An Autonomous Anti-Collision Flexi-Charge Winged Rover
SESSION 9 (Physical) - 15:00 – 17:00 PM		Venue: Robotics Lab, MIT Manipal
15:00 – 15:15	61	Impact of Clock Frequencies on Task Scheduling Performance: A Simulation-Based Study of Basic and Optimized Scheduling Algorithms
15:15 – 15:30	92	Exploring Security Vulnerabilities in Robot Operating System Communication using Jetson Nano
15:30 – 15:45	48	Review on Low-cost Techniques for MEMS IMU Calibration
15:45 – 16:00	49	Comparative Simulation of A*, Dijkstra, and Rapidly-exploring Random Trees (RRT) for Autonomous Underwater Vehicles (AUVs)
16:00 – 16:15	123	Control Methodologies for Tip Stabilization in Flexi-ble Robotic Manipulators: An Analysis of LQR, LQG, and PID Controllers
SESSION 10 (Virtual) - 15:00 – 17:00 PM		Link : https://meet.google.com/wgk-knit-hmo
15:00 – 15:15	27	Agriculture Field Data Monitoring and Recording through Smart Irrigation Model
15:15 – 15:30	36	Assessment And Prediction of Dry & Wet Waste Detection Using YOLOv8
15:30 – 15:45	52	Design and Development of Hydrogel for Extrusion-Based 3D Bioprinting
15:45 – 16:00	53	A Novel Suction Cup System to Open Cardboard Box Corrugated Partition for Packing
16:00 – 16:15	7	Development of a Sensor Integrated Electric Window Blind Prototype for Insect Control
16:15 – 16:30	73	RS-SCD-BiT: remote sensing semantic change detection and feature extraction using bi-temporal image transformer
16:30 – 16:45	38	Crop Prediction Using Machine Learning