



SRI LANKA ASSOCIATION FOR
ARTIFICIAL INTELLIGENCE

20th Annual Sessions

8th SLAAI - International Conference on Artificial Intelligence

(SLAAI-ICAI-2024)

Technical Session Schedule

18th December 2024

General Sir John Kotelawala Defence University, Sri Lanka

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE20th Annual Sessions**8th SLAAI - International Conference on Artificial Intelligence**

(SLAAI-ICAI-2024)

18th December 2024**Technical Session 1: Parallel Session 1: Morning Session**Location: FMSH Building, 5th floor Class A

Time: 11.30 am to 1. 30pm

Session Chair: Prof. Emi Yuda, Mie University, Japan

Session Co-Chair: Dr. Waruna Premachandra, BCI Campus, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Participation
T1P1.01	60	11.30 am - 11.50am	AI-Powered Student Learning System <i>¹Aneesah Sabar, ¹Sahan Gamage, ¹Abishek S., ¹Charuka Lakmal, ¹K.A.Dilini T.Kulawansa,²Pamoda Perera</i> ¹ University of Moratuwa, Sri Lanka ² Rootcode Colombo 03, Sri Lanka			Physical
T1P1.02	49	11.50am - 12.10pm	Knee Osteoarthritis Detection Using Machine Learning on Pre Processed X-ray Images and Treatment Recommendation <i>¹Nuha Rameez, ¹G.G.Dewmi Dissanayake, ¹G. A. Chanula Senindu, ¹P.M.H. Liyanage, ¹Vishmi Embuldeniya</i> ¹ Informatics Institute of Technology, Sri Lanka			Physical
T1P1.03	51	12.10pm - 12.30pm	A Review of Automated Bird Sound Recognition and Analysis in the New AI Era <i>¹Akila Mairthipala, ¹Samantha Mathara Arachchi, ¹Kasun Karunanayaka, ¹Ravindu Perera,^{1,2} Pandula Pallewatta</i> ¹ University of Colombo School of Computing, Sri Lanka ² Nanjing University of Information Science and Technology, China			Physical
T1P1.04	80	12.30pm - 12.50pm	Enhancing Perception for Autonomous Driving Systems with Dual Vision Input Cycle GAN for Night-to-Day Image Translation			Physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE

20th Annual Sessions

8th SLAAI - International Conference on Artificial Intelligence

(SLAAI-ICAI-2024)

18th December 2024



			<p>¹<i>K.J.P.Fernando</i>, ¹<i>H.K.I.S.Lakmal</i>, ²<i>M.B.Dissanayake</i>, ³<i>L.P.Kalansooriya</i> ¹NSBM Green University, Homagama, Sri Lanka ²University of Peradeniya, Sri Lanka ³General Sir John Kotelawala Defence University, Sri Lanka</p>			
T1P1.05	70	12.50pm – 1.10pm	<p>Enhancing Financial Risk Management with Federated AI ¹<i>Vineet Dhanawat</i>, ²<i>Varun Shinde</i>, ³<i>Vishal Karande</i>, ¹<i>Kartik Singhal</i> ¹Meta Platforms Inc, Menlo Park, US, ²Cloudera Inc, Austin, US ³Google Inc, Mountain View, US</p>			online
T1P1.06	17	1.10pm – 1.30pm	<p>Cluster-Based Time Series Modelling and Forecasting of Mobile Network Traffic ¹<i>Vigneshwaran Palanisamy</i>, ²<i>Charles Joseph</i> ¹Sabaragamuwa University of Sri Lanka ²University of Southern Queensland Springfield, Australia</p>			online



Technical Session 1: Parallel Session 2: Morning Session

Location: FMSH Building, 4th floor Class C

Time: 11.30 am to 01. 30pm

Session Chair: Prof. TGI Fernando, University of Sri Jayawardenapura, Sri Lanka

Session Co-Chair: Dr. WMKS Ilmini, University of Sri Jayawardenapura, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Participation
T1P2.01	28	11.30 am - 11.50am	A Promptable Segmentation Approach to Automatic Floor Plan Analysis using Vision Transformers <i>¹M.D.P.P.Goonathilake,</i> <i>²A.L.A.R.R.Thanuja</i> ¹ University of Moratuwa , Sri Lanka, ² University of North Carolina, USA			Physical
T1P2.02	04	11.50am – 12.10pm	Enhancing Small Dataset Classification using Projected Quantum Kernels with Convolutional Neural Networks <i>¹A.M.A.S.D. Alagiyawanna, ¹Asoka Karunananda, ²A.Mahasinghe,</i> <i>¹Thushari Silva,</i> ¹ University of Moratuwa, Sri Lanka ² University of Colombo, Sri Lanka			Physical
T1P2.03	40	12.10pm – 12.30pm	Dynamic ontology-based Travel Recommendation System <i>¹Hansika Gunasekara, ¹Thushari Silva</i> ¹ University of Moratuwa , Sri Lanka			Physical
T1P2.04	77	12.30pm – 12.50pm	Evaluating the Features of Indoor Positioning Systems Using Explainable AI <i>¹S.A.K.Dhananjaya, ¹H.K.I.S.Lakmal,</i> <i>¹W.C.Nirmal</i> ¹ NSBM Green University, Homagama, Sri Lanka			Physical
T1P2.05	79	12.50pm – 1.10pm	Exploring Mind Models: A Comparative Study as the Inaugural			Physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE

20th Annual Sessions

8th SLAAI - International Conference on Artificial Intelligence

(SLAAI-ICAI-2024)

18th December 2024



			<p>Step towards Consciousness Chatbots</p> <p><i>¹D.K.D.K. Amarasinghe, ¹B. Hettige</i></p> <p>¹General Sir John Kotelawala Defence University, Sri Lanka</p>			
--	--	--	---	--	--	--

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE20th Annual Sessions**8th SLAAI - International Conference on Artificial Intelligence**

(SLAAI-ICAI-2024)

18th December 2024**Technical Session 1: Parallel Session 3: Morning Session**Location: FMSH Building, 5th floor Class B

Time: 11.30 am to 01. 30pm

Session Chair: Dr. Ruwan Weerasinghe, Informatics Institute of Technology, Sri Lanka

Session Co-Chair: Ms. WJ Samaraweera, Gen. Sir John Kotelawala Defence University, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Participation
T1P3.01	72	11.30 am - 11.50am	Multi-Agent Reinforcement Learning based Warehouse Task Assignment <i>¹Ashan Priyadarshana Kuruppu,</i> <i>¹Asoka S. Karunananda</i> <i>¹University of Moratuwa, Sri Lanka</i>			Physical
T1P3.02	10	11.50am – 12.10pm	Cross-Platform Topic Analysis: Identifying Trends and Divergences in Social Media Discourse <i>¹Amila Chethana Nanayakkara,</i> <i>¹Banage T.G.S. Kumara, ¹R. M. Kapila</i> <i>Tharanga Rathnayaka</i> <i>¹Sabaragamuwa University of Sri Lanka</i>			Physical
T1P3.03	26	12.10pm – 12.30pm	Implementing Cognitive Behavioral Therapy in Chatbots to Reduce Students' Exam Stress Using ChatGPT <i>¹M.M.A.H.Indumini,</i> <i>¹K.A.S.H.Kulathilake,</i> <i>¹D.K.Hettiarachchi</i> <i>¹Rajarata University of Sri Lanka</i>			Physical
T1P3.04	67	12.30pm – 12.50pm	Data Driven Analysis of Protest Dynamics: Comparing Black Lives Matter Movement 2020 and South African Unrest 2021 on Twitter			Physical



			<p>¹<i>Amila Chethana Nanayakkara,</i> ¹<i>Banage T.G.S. Kumara, ¹R.M.Kapila</i> <i>Tharanga Rathnayaka</i> ¹Sabaragamuwa University of Sri Lanka</p>			
T1P3.05	66	12.50pm – 1.10pm	<p>Comparative Analysis of Deep Learning Models for Multilingual Language Translation ¹<i>Divya Nimma, ²V.K.Somasekhar Srinivas, ³Santoshi Sen Gupta, ⁴Hari Nair, ⁵R.Latha Devi, ⁶B.Kiran Bala</i> ¹University of Southern Mississippi, USA ²Mohan Babu University, India ³Graphic Era Hill University, India ⁴Sagi Rama Krishnam Raju Engineering College, India ⁵University College of Engineering, India ⁶K. Ramakrishnan College of Engineering, India</p>			online

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE20th Annual Sessions**8th SLAAI - International Conference on Artificial Intelligence**

(SLAAI-ICAI-2024)

18th December 2024**Technical Session 1: Parallel Session 4: Morning Session**

Location: FMSH Building, 4th floor Class D

Time: 11.30 am to 01. 30 pm

Session Chair: Dr. ATP Silva, University of Moratuwa, Sri Lanka

Session Co-Chair: Ms. SCM De Silva Sirisooriya, Gen. Sir John Kotelawala Defence University, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Participation
T1P4.01	37	11.30 am - 11.50am	Review on AI Assistant Systems for Programming Language Learning in Learning Environments <i>¹Savithree Senanayake, ¹Kasun Karunanayaka, ²K.V.J.P. Ekanayake</i> ¹ University of Colombo, Sri Lanka ² The Open University of Sri Lanka, Nugegoda, Sri Lanka			Physical
T1P4.02	50	11.50am – 12.10pm	Advancing Demand Forecasting for Material Requirements Planning in Food Manufacturing: A Hierarchical Forecasting Approach <i>¹Achala Hasini Perera, ¹H. Niles Perera, ¹Priyanga Dilini Talagala, ¹Amila Thibbotuwawa</i> ¹ University of Moratuwa, Sri Lanka			Physical
T1P4.03	99	12.10pm – 12.30pm	Sentiment Analysis with Support Vector Machines for Travel Agency Ranking and Traveler Decision Support in Sri Lanka <i>¹D.D.M.Jayawardana, ¹G.S.N.Meedin, ¹H.U.W.Rathnayake</i> ¹ The Open University of Sri Lanka			Physical
T1P4.04	108	12.30pm – 12.50pm	A Novel Stacked Machine Learning Framework for Enhanced Prediction of Corporate CO₂ Emissions in Multisectoral Analysis <i>¹K.N.M.P.K Kosgahakumbura, ¹P.P.N.V.Kumara, ¹S.M.M.Lakmali</i>			Physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE

20th Annual Sessions

8th SLAAI - International Conference on Artificial Intelligence

(SLAAI-ICAI-2024)

18th December 2024



			¹ General Sir John Kotelawala Defence University, Sri Lanka			
T2P4.05	93	12.50pm – 1.10pm	1D CNN-Based Traditional Instrument Classification and Notation Generation in Sinhala for Gataberaya and Flute <i>¹P.G.R.Dulmi, ¹B.Hettige</i> ¹ General Sir John Kotelawala Defence University, Sri Lanka			Physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE20th Annual Sessions**8th SLAAI - International Conference on Artificial Intelligence**

(SLAAI-ICAI-2024)

18th December 2024**Technical Session 2: Parallel Session 1: Evening Session**Location: FMSH Building, 5th floor Class A

Time: 02.30 pm to 04. 30 pm

Session Chair: Prof. RMKT Rathnayake, Sabaragamuwa University of Sri Lanka, Sri Lanka

Session Co-Chair: Ms. RGUI Meththananda, Gen. Sir John Kotelawala Defence University, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Email
T2P1.01	16	2.30pm – 2.50pm	Optimizing Feature Selection in Spam Email Detection Using Co-Evolutionary Algorithms <i>¹Nethni Hirusha Wanigasingha, ¹T.G.I. Fernando</i> ¹ University of Sri Jayewardenepura, Sri Lanka			Physical
T2P1.02	32	2.50pm – 3.10pm	2D AI Avatar Attributes Impacting on Bank Customers' Perceived Experience <i>¹Surasi Muthumini De Silva, ¹Imesha Imangi, ¹Supun Lakshan, ²H.A. Dimuthu Maduranga Arachchi, ¹G. D. Samarasinghe</i> ¹ University of Moratuwa, Sri Lanka ² Toulouse Capitole Université, France			physical
T2P1.03	46	3.10pm – 3.30pm	Analyze Factors Affecting Thread Consumption in a Garment and Develop a Machine Learning-based Prediction Model <i>¹Vindya Ubayawickrema, ¹Samantha Mathara Arachchi, ^{1,2}Pandula Pallewatta ¹Kasun Karunanayaka, ¹Akila Maithripala,</i> ¹ University of Colombo School of Computing, Sri Lanka ² Nanjing University of Information Science and Technology, China			physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE20th Annual Sessions**8th SLAAI - International Conference on Artificial Intelligence**

(SLAAI-ICAI-2024)

18th December 2024

T2P1.04	48	3.30pm – 3.50pm	LawKey – Law Constitution Chatbot <i>¹W. Shamini Fernando, ¹Mandinu Handapangoda, ¹Nividula Samindi, ¹Maneth Gamage, ¹Dileeka Alwis</i> ¹ Informatics Institute of Technology, Sri Lanka			
T2P1.05	18	3.50pm – 4.10pm	Comparative Performance Analysis of Machine Learning Models for Breast Cancer Prediction <i>¹H.A.Dimuthu Maduranga Arachchi, ²Amila Samarasinghe, ³H.P.Dimuth Prasanna Pathirana, ⁴G.D Samarasinghe</i> ¹ Toulouse Capitole Université, France ² Individual Researcher, Kandy, Sri Lanka ³ Uva Wellassa University, Sri Lanka ⁴ University of Moratuwa, Sri Lanka			online
T2P1.06	03	4.10pm – 4.30pm	A Fully Automated Approach for Enhancing Ancient Tamil Inscriptions Using Deep Learning <i>¹Suthakar Sivashanth, ¹Eugene Yugarajah Andrew Charles, ¹Siyamalan Manivannan</i> ¹ University of Jaffna, Sri Lanka			online



Technical Session 2: Parallel Session 2: Evening Session

Location: FMSH Building, 4th floor Class C

Time: 02.30 am to 04. 30pm

Session Chair: Dr. Sidath Liyanage, University of Kelaniya, Sri Lanka

Session Co-Chair: Ms. MKP Madushanka, Gen. Sir John Kotelawala Defence University, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Participation
T2P2.01	52	2.30pm – 2.50pm	Development of a Computationally Efficient CNN-Based Deep Learning Model for Anomaly Detection in Retail Surveillance <i>¹Lavanya Ravichandran, ¹Fathima Riztha, ¹Thakshanah Selvakumar, ¹Zamith Ahamed</i> ¹ University of Kelaniya, Sri Lanka			Physical
T2P2.02	09	2.50pm – 3.10pm	Hybrid Machine Learning and Moving Target Defense (MTD) for Comprehensive Switchport Attack Detection <i>¹R.G.C. Upeksha, ¹M.W.P. Maduranga, ²Chanaka Lasantha, ¹Sharith Aminda</i> ¹ SLTC Campus, Sri Lanka ² Kerner Norland Pvt (Ltd), Sri Lanka			Physical
T2P2.03	96	3.10pm – 3.30pm	PaddyShield: A CNN-Based Rice Leaf Diseases Detection and Management System <i>¹Shalika Chathuranga, ¹Pavithra Subhashini, ²Jeeva Ekanayake</i> ¹ NSBM Green University, Colombo, Sri Lanka ² The Open University of Sri Lanka, Nawala, Sri Lanka			Physical
T2P2.04	47	3.30pm – 3.50pm	Optimizing Production Efficiency in the Garment Industry: The Role of Predictive Analytics			Physical



			Techniques in Sri Lanka's Textile Sector <i>¹Zamith Ahamed, ¹Dinesh Asanka, ¹Chathura Rajapakse</i> ¹ University of Kelaniya, Sri Lanka			
T2P2.05	11	3.50pm – 4.10pm	Udarata Dance Pose Detection and Validation Using Computer Vision and Deep Neural Networks: A Comparative Study of Static and Dynamic Approaches <i>¹S.D.T. Akalanka Siriwardana, ²MWP Maduranga</i> ¹ General Sir John Kotelawala Defence University, Sri Lanka ² Centre for Telecommunications Research, Sri Lanka Technology Campus, Sri Lanka			Physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE20th Annual Sessions**8th SLAAI - International Conference on Artificial Intelligence**

(SLAAI-ICAI-2024)

18th December 2024**Technical Session 2: Parallel Session 3: Evening Session**

Location: FMSH Building, 5th floor Class C

Time: 02.30 am to 04. 30pm

Session Chair: Prof. HUW Rathnayake, The Open University of Sri Lanka, Sri Lanka

Session Co-Chair: Dr. PTR Dabare, The Open University of Sri Lanka, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Participation
T2P3.01	24	2.30pm – 2.50pm	Nutrient Deficiency Detection System for Black Pepper Leaf Using Machine Learning <i>¹A.M.S.K.Abeysinghe, ¹G. Anthonys</i> ¹ The Open University of Sri Lanka, Nawala, Sri Lanka			Online
T2P3.02	30	2.50pm – 3.10pm	Automated Algae Detection and Quantification on Coral Reefs Using U-Net Segmentation Model <i>¹S.M.H.M.Samarakoon, ¹B.K.K.S.Rodrigo, ¹N.P.U.N.Pathirana, ¹M.N.F. Nifra, ¹M.N.R. Begum, ¹K.A.S.H. Kulathilake</i> ¹ Rajarata University of Sri Lanka, Sri Lanka			online
T2P3.03	61	3.10pm – 3.30pm	Quality Assurance for LLM-Generated Test Cases: A Systematic Literature Review <i>¹Hasali Edirisinghe, ¹Dilani Wickramaarachchi</i> ¹ University of Kelaniya, Sri Lanka			Physical
T2P3.04	86	3.30pm – 3.50pm	IoT-Enabled Dual-Sensing Smart Waste Management System: Enhancing Urban Cleanliness and Sustainability in Smart Cities <i>¹R.M.P.M.D.Rathnayke, ²T.M.M.Chanaka, ¹P.T.R.Dabare, ³K.P.Hewagamage</i>			Physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE

20th Annual Sessions

8th SLAAI - International Conference on Artificial Intelligence

(SLAAI-ICAI-2024)

18th December 2024



			¹ The Open University of Sri Lanka, Nawala, Sri Lanka ² NMI Communications, AIRTEL Maintenance ³ Univercity of Colombo, Sri Lanka			
T2P3.05	57	3.50pm – 4.10pm	Development of a Real-Time Hand Gesture Recognition System for Aid of Hearing-Impaired Communication Using Flex Sensors and Machine Learning Algorithms ¹ <i>Chamod Rathnayake</i> , ¹ <i>Rukshan Gamage</i> , ¹ <i>Ruwan Kalubowila</i> , ¹ <i>B.L. Sanjaya Thilakarathne</i> ¹ University of Colombo, Sri Lanka			Online



Technical Session 2: Parallel Session 4: Evening Session

Location: FMSH Building, 4th floor Class D

Time: 02.30 am to 04. 30pm

Session Chair: Dr. Shanika Wijayasekara, SLIIT, Sri Lanka

Session Co-Chair: Ms. LTTD Silva, Gen. Sir John Kotelawala Defence University, Sri Lanka

Session ID	Paper ID	Time (SL Time)	Paper Title	Phone	Email	Participation
T2P4.01	29	2.30pm – 2.50pm	Handling Data Imbalance in Video Satisfaction Analysis <i>¹P.D.Thimira Madusanka, ¹U.A. Piumi Ishanka</i> ¹ Sabaragamuwa University of Sri Lanka			Physical
T2P4.02	25	2.50pm – 3.10pm	Enhanced Failure Detection in Induction Motors Using Supervised Learning and Data Smoothing Techniques <i>¹W.C.Nirmal, ¹H.K.I.S.Lakmal, ¹S.A.K.Dhananjaya</i> ¹ NSBM Green University, Homagama, Sri Lanka			Physical
T2P4.03	63	3.10pm – 3.30pm	RSSI-Based Indoor Localization Using Deep Learning with Custom Loss Function <i>¹M.W.P.Maduranga, ¹Udesh Oruthota, ²H.K.I.S.Lakmal, ²Shamila Kulatunga</i> ¹ Sri Lanka Technology Campus, Sri Lanka ² NSBM Green University, Homagama, Sri Lanka			Physical
T2P4.04	71	3.30pm – 3.50pm	Performance Comparison of Machine Learning Approaches for Predicting Wind Power Generation of Thambapavani Wind Farm in Sri Lanka <i>¹W.M.S.K Kumari, ¹N.Yapage</i> ¹ University of Ruhuna, Sri Lanka			Physical

SRI LANKA ASSOCIATION FOR ARTIFICIAL INTELLIGENCE

20th Annual Sessions

8th SLAAI - International Conference on Artificial Intelligence

(SLAAI-ICAI-2024)

18th December 2024



T2P4.05	109	3.50pm – 4.10pm	Real Time Energy Forecasting Scheme for Large-Scale PV Solar Power Plants - Cloud Image Segmentation and Contour Detection <i>¹K.H.R.P.Hewage, ¹Udaya Dampage, ¹E.R.C. Sandamali</i> ¹ General Sir John Kotelawala Defence University, Sri Lanka			Physical
---------	-----	-----------------	---	--	--	----------