



2nd International Conference on Advanced Research in Computing

ICARC 2022

“Towards a Digitally Empowered Society”

PROGRAMME BOOK

23rd & 24th February 2022

Department of Computing & Information Systems

Faculty of Applied Sciences

Sabaragamuwa University of Sri Lanka

Programme – 2nd International Conference on Advanced Research in Computing (ICARC
2022)



ICARC - 2022

“Towards a Digitally Empowered Society”

2ND INTERNATIONAL CONFERENCE ON
ADVANCED RESEARCH IN COMPUTING



23RD - 24TH FEBRUARY 2022

FACULTY OF APPLIED SCIENCES, SABARAGAMUWA UNIVERSITY OF SRI LANKA,
BELIHULOYA, SRI LANKA

Conference Programme at a Glance

	Day 01	Day 02
	23rd February, 2022	24th February, 2022
08.00 am – 10.30 am		Technical Session 02 <ul style="list-style-type: none"> - Artificial Intelligence and Machine Learning Track (Session 2) - Artificial Intelligence and Machine Learning Track (Session 3) - Data Science and Applications Track - Open Track - Technology-enhanced Learning and Teaching Track - Software Engineering Track
10.30 am – 11.00 am		Tea
11.00 am – 01.30 am	Technical Session 01 <ul style="list-style-type: none"> - Artificial Intelligence and Machine Learning Track (Session 1) 	Keynote Speech 02 by Dr. Nalin Asanka Gamagedara Arachchilage
01.30 pm – 02.00 pm	Lunch	Lunch
		Technical Session 03 <ul style="list-style-type: none"> - Parallel and Distributed Computing Track - Human-Computer Interaction and Computer Vision Track - Artificial Intelligence and Machine Learning Track (Session 4) - Artificial Intelligence and Machine Learning Track (Session 5) - Knowledge Management and Information Systems Track - Industry R&D Track
03.00 pm – 03.30 pm	Welcome Tea	
03.30 pm – 04.00 pm	Inauguration	
04.00 pm		Tea

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2022)

– 04.30 pm		
04.30 pm– 05.00 pm	Keynote Speech 01 by Assoc.Prof.(Dr.) Supavadee Aramvit (IEEE Asia Pacific (Region 10) Director – Elect (2021/2022))	Closing of the Program
06.00 pm– 07.00 pm	End of the Inauguration	

Plenary Speech Schedule

	Plenary Speaker	Rapporteur	Date and Time
Plenary Talk 01	Dr. Lochandaka Ranatunga	Prof. BTGS Kumara	23 rd February 2022 11.30 am – 11.55 am
Plenary Talk 02	Prof. Prasad Jayaweera	Mr. Anuradha Herath	24 th February 2022 08.00 am – 08.25 am
Plenary Talk 03	Dr. Chathura Rajapaksha	Prof. Kapila Rathnayaka	24 th February 2022 08.00 am – 08.25 am
Plenary Talk 04	Dr. Pradeep Kalansooriya	Dr. Sugeeshwari Lekamge	24 th February 2022 08.00 am – 08.25 am
Plenary Talk 05	Prof. Pradeep Abeygunawardhana	Prof. S Vasanthapriyan	24 th February 2022 08.00 am – 08.25 am
Plenary Talk 06	Dr. Jayalath Ekanayaka	Dr. Hiruni Rupasingha	24 th February 2022 08.00 am – 08.25 am
Plenary Talk 07	Dr. Lochandaka Ranatunga	Dr. Piumi Ishanka	24 th February 2022 08.00 am – 08.25 am
Plenary Talk 08	Dr. Lochandaka Ranatunga	Mr. K. Banujan	24 th February 2022 01.45 pm – 02.20 pm
Plenary Talk 09	Dr. Windhya Rankothge	Dr. Pubudu Jayasena	24 th February 2022 01.45 pm – 02.20 pm
Plenary Talk 10	Dr. Kasun Karunanayake	Mr. Ravindra Dangalla	24 th February 2022 01.45 pm – 02.20 pm
Plenary Talk 11	Prof. Lasith Gunawardena	Dr. Thilini Bhagya	24 th February 2022 01.45 pm – 02.20 pm
Plenary Talk 12	Ms. Heshani Mahalaksha	Ms. Subodhi Wasalthilaka	24 th February 2022 01.45 pm – 02.20 pm

Workshops and Tutorials Schedule

Date	Title and Resource Persons
09 th of February 2022	<p>Title: Panel Discussion on Social Entrepreneurship and Women Empowerment</p> <p><i>Moderator: Dr Rasara Samarasinghe</i></p> <p>Speakers: <i>Prof. Kumudu Perera, Mrs. Pulani Ranasinghe, Ms. Thilini Wijewardhana and Ms. Janani Liyanage</i></p> <p>.</p> <p>The Panel Discussion on “Social Entrepreneurship and Women Empowerment” is organized by the IEEE Women in Engineering Affinity Group of SUSL in parallel to the ICARC 2022 with the intention of enhancing the understanding of undergraduates on how social entrepreneurship can empower women leaders in various disciplines and raising awareness on how to empower women by increasing their status through education, awareness, literacy, and training, as well as elaborating employment opportunities in various professions</p>
12 th of February 2022	<p>Title: Legal Aspects of Information Technology in Sri Lanka</p> <p>Resource Persons: <i>Dr. Chamila Talagala and Mr. Balendra Soorya</i></p> <p>.</p> <p>The advancement of information and communication technology has resulted in significant global transformations. The expansion had an impact on daily life, causing huge changes and impacts on the general public. COVID-19 and the acceleration of 'Digital Literacy' have increased the use of technology all across the world. People, on the other hand, frequently misuse such inexpensive, comfortable, and efficient platforms. Misuse of technology in cyberspace breeds cybercrime, intellectual property infringement, defamation, privacy risks, and a slew of other domestic and international legal challenges. As a result, scientists, researchers, academics, and the general public need to be aware of the special legislation governing these important sub-domains of technology</p>
14 th of February 2022	<p>Title: Software Defined Networks for Cloud Architectures</p> <p>Resource Persons: <i>Dr. Windhya Rankothge and Ms. Pipuni Wijesiri</i></p> <p>.</p> <p>Software Defined Networks (SDN) is a network management approach that enables the network to be intelligently and centrally controlled or programmed using software applications. SDN mainly focuses on the separation of the network control plane (software) from the data plane (hardware) in networking equipment. It centralizes network intelligence in one network component by disassociating the forwarding process of network packets (data plane) from the routing process (control plane). SDN is widely</p>

	utilized in cloud network architectures, particularly for dynamically, easily, and quickly updating cloud network configurations.
22 nd of February 2022	<p>Title: Protein Interaction Network Analysis using Biopython</p> <p>Resource Persons: <i>Dr. Roshan Perera,</i> <i>Mr. Suresh Chanaka Hewapathirana and</i> <i>Ms. Bhagya Senadheera</i></p> <p>Proteomics, the complete set of proteins expressed by an organism, has long been recognized as an important aspect of functional biology. There, many biological processes in living cells are mediated by protein–protein interactions (PPIs). As a result, understanding protein activity and correlating biological roles in the cellular setting necessitates PPI characterisation. To that end, Biopython is an essential programming API for Bioinformaticians to analyse proteomics data because it contains a large number of packages that cover a wide range of data analysis from biological sequence analysis to structural modeling and PPI visualization.</p>
20 th of February 2022	<p>Title: Introduction to Computer Vision and Applications</p> <p>Resource Person: <i>Dr. Fairoza Amira Hamzah</i></p> <p>Digital image processing has been on the rise since the 1900s, artificial intelligence in the 1960s, and supercomputing since the 2010s. Computer vision has now become an integral part of every industry. In this talk, we will introduce the applications of computer vision and the advantage of using deep learning over traditional image processing.</p>
21 st of February 2022	<p>Title: Building an Intelligent Chatbot</p> <p>Resource Person: <i>Dr. Sagara Sumathipala</i></p> <p>Conversational AI has been defined as “the study of techniques for creating software agents that can engage in natural conversational interactions with humans”. While the idea of interacting with a machine using natural languages (text or voice) has been around for a long time, it is only recently that it has become a reality. Nowadays, people can talk to digital personal assistants on their smartphones, they can ask questions or issue commands to voice-enabled smart speakers, and they can navigate using voice-based systems in their automobiles. In other words, Conversational AI has become ubiquitous. Various terms are used in the literature to describe these systems, for example, Dialogue System, Voice User Interface, Conversational Agent, and Chatbot. This workshop will provide hands-on experience in building a simple chatbot using open source frameworks.</p>

<p>25th of February 2022</p>	<p>Title: Robot Operating System Resource Person: <i>Prof. Chandimal Jayawardena</i></p> <p>ROS is an open-source, meta-operating system for robots. It provides the services you would expect from an operating system, including hardware abstraction, low-level device control, implementation of commonly-used functionality, message-passing between processes, and package management. It also provides tools and libraries for obtaining, building, writing, and running code across multiple computers. ROS is the Robot Operating System framework, which is used nowadays by hundreds of research groups and companies in the robotics industry. ROS is focused on maximizing code reuse in robotics research and development.</p>
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Technical Sessions

Day		23rd February 2022
Venue		LT 204
Time		11.30 am – 01.30 pm
Session		Artificial Intelligence and Machine Learning Track (Session 1)
Session Chair		Dr. L Ranatunga
Panel Members		Dr (Ms.) D.D.M. Ranasinghe & Mr. Thushan Sivalingam
Rapporteur		Prof. BTGS Kumara
Session Coordinator		Ms. KS Ranasinghe & Ms. WVSK Wasalthilaka
11.30 am – 11.35 am		Introduction of the Chair
11.35 am – 11.55 am		Plenary Speech by the Chair
Time	Paper ID	Paper Title and Authors
11.55 am - 12.10 pm	37	Intelligent System to Verify the Effectiveness of Proposed Teacher Transfers Incorporating Human Factors <i>VJ Karunanayake, JC Wanniarachchi, PN Karunanayake, and UU Samantha Rajapaksha</i>
12.10 pm - 12.25 pm	84	Prosody Transfer from a Small Amount of Voice using Fine Tuning <i>Taiga Tokushima, Ryohei Orihara, Yuichi Sei, Yasuyuki Tahara, and Akihiko Ohsuga</i>
12.25 pm - 12.40 pm	97	Versatile Automatic Piano Reduction Generation System by Deep Learning <i>Yuki Hoshi, Ryohei Orihara, Yuichi Sei, Yasuyuki Tahara, and Akihiko Ohsuga</i>
12.40 pm - 12.55 pm	185	Blending Weighted TF-IDF & BERT for Improving Semantic Search <i>Meenal Dugar</i>
12.55 pm - 01.10 pm	193	Power Line Detection Using Unmanned Aerial Vehicle with Spherical Shell <i>M Sumagayan, R Mangorsi, ER Aleluya, CJ Salaan, and C Premachandra</i>
01.10 pm – 01.20 pm		QA Session
01.20 pm – 01.30 pm		Summing up by the Chair

Day		24th February 2022
Venue	LT 204	
Time	08.00 am - 10.30 am	
Session	Artificial Intelligence and Machine Learning Track (Session 2)	
Session Chair	Prof. PM Jayaweera / Prof. BTGS Kumara	
Panel Members	Dr. A Ramanan & Dr. Vasana Chandrasekara	
Rapporteur	Mr. GACA Herath	
Session Coordinator	Ms. WVSK Wasalthilaka	
08.00 am – 08.05 am	Introduction of the Chair	
08.05 am – 08.25 am	Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors
08.25 am - 08.40 am	53	Predicting the Next Word of a Sinhala Word Series Using Recurrent Neural Networks <i>NTK Naulla and TGI Fernando</i>
08.40 am - 08.55 am	55	Detecting COVID-19 Pneumonia using Chest-Xrays through Deep Learning Techniques <i>AB Meepaganithage and MGNAS Fernando</i>
08.55 am - 09.10 am	66	GlucoFriend: Glycaemic Variability Prediction for Diabetes Patients <i>Shehan Guruge and Pumudu Fernando</i>
09.10 am - 09.25 am	70	Prediction Of Potentially Hazardous Asteroids Using Deep Learning <i>RKMT Nishavi Ranaweera and TGI Fernando</i>
09.25 am - 09.40 am	86	End-to-End Automated Crossword Solver using Image Processing, Natural Language Processing and Neural Network <i>TLH Gammedda and MGNAS Fernando</i>
09.40 am – 09.50 am	QA Session	
09.50 am – 10.00 am	Summing up by the Chair	

Day		24th February 2022
Venue		LT 202
Time		08.00 am - 10.30 am
Session		Data Science and Applications Track
Session Chair		Dr. C Rajapaksha
Panel Members		Dr K P P S. Pathirana & Dr Damayanthi Herath
Rapporteur		Prof. RMKT Rathnayaka
Session Coordinator		Mr. J Charles
08.00 am – 08.05 am		Introduction of the Chair
08.05 am – 08.25 am		Plenary Speech by the Chair
Time	Paper ID	Paper Title and Authors
08.25 am - 08.40 am	187	Sentiment Analysis of Social Media Data using Fuzzy-Rough Set Classifier for the Prediction of the Presidential Election <i>Suresha Perea and Kasun Karunanayaka</i>
08.40 am - 08.55 am	80	Optimize Transfer Learning for Autism Spectrum Disorder Classification with Neuroimaging: A Comparative Study <i>Lakmini Herath, Dulani Meedeniya, Janaka Marasingha, and Vajira Weerasinghe</i>
08.55 am - 09.10 am	98	Analyzing the Impact of Social Media on Sinhala News Dissemination in Mass Media <i>MD Madhushika, Supunmali Ahangama, and DA Rajapaksha</i>
09.10 am - 09.25 am	168	Analyze Hate Contents on Sinhala Tweets using an Ensemble Method <i>Madurangi Guruge, Supunmali Ahangama, and Dinithi Amarasinghe</i>
09.25 am - 09.40 am	51	Chest Radiographs Classification Using Multi-model Deep Learning: A Comparative Study <i>Chamodi Fernando, Hashara Kumarasinghe, Shammi Kolonne, and Dulani Meedeniya</i>
09.40 am – 09.50 am		QA Session
09.50 am – 10.00 am		Summing up by the Chair

Day	24th February 2022	
Venue	LT 203	
Time	08.00 am - 10.30 am	
Session	Open Track	
Session Chair	Dr. LP Kalansooriya	
Panel Members	Dr Dasuni Nawinna & Dr Budditha Hettige	
Rapporteur	Dr. LS Lekamge	
Session Coordinator	Ms. KS Ranasinghe	
08.00 am – 08.05 am	Introduction of the Chair	
08.05 am – 08.25 am	Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors
08.25 am - 08.40 am	31	COVID 19 Navigator Taxi Application for Urban Mobility during Pandemic Period <i>Rojith Peiris, Bimsara Kanchana, Damitha Perera, and Jagath Wickramarathne</i>
08.40 am - 08.55 am	74	The Effectiveness of Policies on ICT Resources and Passwords in Sri Lankan Universities <i>CSD Ellepola, Roshan G Ragel, Manjula Sandirigama, and KWSN Kumari</i>
08.55 am - 09.10 am	104	A Hop-count and Neighbor-count based Routing Protocol for Flying Ad-hoc Networks <i>AACD Adikari and K Thabocharan</i>
09.10 am - 09.25 am	122	Development of Agent-Based Centralized Tool for Analyzing and Managing Security-Enhanced Linux Policies using WebSocket Protocol <i>Ishara Madushanka Kularatna and UU Samantha Rajapaksha</i>
09.25 am - 09.40 am	134	Techniques of Enhancing Synchronization Efficiency of Distributed Real Time Operating Systems <i>AWHP Alagalla and UU Samantha Rajapaksha</i>
09.40 am - 09.55 am	140	The Design and Implementation of an IOT-based Real-time Air Purification System for Outdoor Environment <i>HMRG Herath, KKWSPK Jayasundara, YKA Yadhasighe, and SDA Sanjeewa</i>
09.55 am - 10.10 am	154	Computational Study on SARS-CoV-2 Viral Protein Interaction with Natural Compounds of <i>Coriandrum sativum L</i> <i>RP Perera, SPBM Senadheera, and S Hewapathirana</i>
10.10 am – 10.20 am	QA Session	
10.20 am – 10.30 am	Summing up by the Chair	

Day	24th February 2022	
Venue	LT 102	
Time	08.00 am - 10.30 am	
Session	Technology-enhanced Learning and Teaching Track	
Session Chair	Prof. P Abeygunawardhana	
Panel Members	Dr Tharinda Vidanagama & Dr Kalpani Manathunga	
Rapporteur	Prof. S Vasanthapriyan	
Session Coordinator	Ms. R Nirubikaa	
08.00 am – 08.05 am	Introduction of the Chair	
08.05 am – 08.25 am	Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors
08.25 am - 08.40 am	93	Voice-based Online Examination System for Visually Impaired Students <i>IHHN Dharmasena and JADCA Jayakody</i>
08.40 am - 08.55 am	142	Classifying Documents based on Formal and Informal Writing Styles using Machine Learning Algorithms <i>KMGS Karunarathna, RAHM Rupasingha, and BTGS Kumara</i>
08.55 am - 09.10 am	145	A Knowledge-Based Adaptive Algorithm to Recommend Interactive Learning Assessments <i>DPS Jayasiriwardene and DA Meedeniya</i>
09.10 am - 09.25 am	172	A Comparative Study of Predicting Students’ Academic Performance Using Classification Algorithms <i>MPRIR Silva, RAHM Rupasingha, and BTGS Kumara</i>
09.25 am - 09.40 am	189	Interpretable Student Performance Prediction Using Explainable Boosting Machine for Multi-Class Classification <i>Shyaman Jayasundara, Amila Indika, and Damayanthi Herath</i>
09.40 am – 09.50 am	QA Session	
09.50 am – 10.00 am	Summing up by the Chair	

Day	24th February 2022	
Venue	LT 101	
Time	08.00 am - 10.30 am	
Session	Software Engineering Track	
Session Chair	Dr. EMUWJB Ekanayaka	
Panel Members	Dr P.L.M Prabhani & Dr.A.D. Dharmawansa	
Rapporteur	Dr. RAHM Rupasingha	
Session Coordinator	Mr. S Prashanth	
08.00 am – 08.05 am	Introduction of the Chair	
08.05 am – 08.25 am	Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors
08.25 am - 08.40 am	157	An Improved Round Robin Algorithm for an Efficient CPU Scheduling <i>AM Oshani Bandara and UU Samantha Rajapaksha</i>
08.40 am - 08.55 am	164	Classifying Source Code Using Boosting Algorithms <i>Mohamed Ifham, BTGS Kumara, Kuhaneswaran Banujan, Prasanth Senthana, and EMUWJB Ekanayake</i>
08.55 am - 09.10 am	166	Investigating the Performance in SDN Based Data Centers Under Different Network Topologies <i>KGRP Hemachandra, KPN Jayasena, Windhya Rankothge, and MPM Wijesiri</i>
09.10 am – 09.20 am	QA Session	
09.20 am – 09.30 am	Summing up by the Chair	

Day	24th February 2022	
Venue	LT 103	
Time	08.00 am - 10.30 am	
Session	Artificial Intelligence and Machine Learning Track (Session 3)	
Session Chair	Dr. L Ranatunga	
Panel Members	Dr Sanika Wijesekera & Dr Wijendra Gunathilake	
Rapporteur	Dr. UAP Ishanka	
Session Coordinator	Ms. PMAK Wijeratne	
08.00 am – 08.05 am	Introduction of the Chair	
08.05 am – 08.25 am	Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors
08.25 am - 08.40 am	50	IoT-Based Soil Nutrient Analyser Using Gaussian Process Regression <i>Isuru Senevirathne, Thanuja Ambegoda, Ruchira Wijesena, and Indika Perera</i>
08.40 am - 08.55 am	160	Contact Tracing of Covid-19 Patients Using Tweets <i>Damitha Perera and Jeewanee Bamunusinghe</i>
08.55 am - 09.10 am	167	Comparison Analysis and Data Retrieval to identify the associated people in Social Media by Image Processing <i>JKSL Jayakody and NT Jayatilake</i>
09.10 am - 09.25 am	177	Towards Reducing Traffic Accidents through Assisting Drivers <i>MDK Jayawardana and K Karunanayaka</i>
09.25 am - 09.40 am	162	The Effects of Social Media User Behavioural Factors on Hate Speech Detection <i>Suresha Perea, Indika Perera, and Supunmali Ahangama</i>
09.40 am - 09.55 am	179	Exploring Twitter Messages during the COVID-19 Pandemic in Sri Lanka: Topic Modelling and Emotion Analysis <i>Suresha Perea, Indika Perera, and Supunmali Ahangama</i>
09.55 am – 10.05 am	QA Session	
10.05 am – 10.15 am	Summing up by the Chair	

Day		24th February 2022
Venue		LT 204
Time		01.45 pm – 04.00 pm
Session		Artificial Intelligence and Machine Learning Track (Session 4)
Session Chair		Dr. Lochandaka Ranatunga
Panel Members		Dr Janaka Wijekoon & Dr Siyamalan Manivannan
Rapporteur		Mr. K Banujan
Session Coordinator		Ms. KS Ranasinghe
01.45 pm – 02.00 pm		Introduction of the Chair
02.00 pm – 02.20 pm		Plenary Speech by the Chair
Time	Paper ID	Paper Title and Authors
02.20 pm - 02.35 pm	88	Facial Feature Identification in the Deep Learning Based Apparent Personality Detection <i>WMKS Ilmini and TGI Fernando</i>
02.35 pm - 02.50 pm	94	A Path Planning Drone Solution to Safe Pesticide Usage in Arable Lands <i>Akarshani Amarasinghe, Lakshman Jayaratne, and Viraj B Wijesuriya</i>
02.50 pm - 03.05 pm	96	Deep Learning Approach for Designing and Development of Risk Level Indicator for Patients with Lung Diseases <i>KBAB Chathurika and A Gamage</i>
03.05 pm - 03.20 pm	103	Transfer Learning Techniques with SVM For Covid-19 Disease Prediction Based On Chest X-Ray Images <i>GHGSAD Dhanapala and S Sotheeswaran</i>
03.20 pm - 03.35 pm	110	Machine Learning Approach to Detect Online Shopping Addiction <i>AGS Nawodya and BTGS Kumara</i>
03.35 pm - 03.50 pm	124	Moving a Robot In Unknown Areas Without Collision Using Robot Operating System <i>KKP Gayashani, UU Samantha Rajapaksha, and Chandimal Jayawardena</i>
03.50 pm – 03.55 pm		QA Session
03.55 pm – 04.00 pm		Summing up by the Chair

Day	24th February 2022	
Venue	LT 202	
Time	01.45 pm – 04.00 pm	
Session	Parallel and Distributed Computing Track	
Session Chair	Dr. Windya Rankothge	
Panel Members	Dr. Dharshana Kasthurirathna & Dr Vidura Jayasooriya	
Rapporteur	Dr. KPN Jayasena	
Session Coordinator	Mr. J Charles	
01.45 pm – 02.00 pm	Introduction of the Chair	
02.00 pm – 02.20 pm	Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors
02.20 pm - 02.35 pm	85	Wavelength Conversion Approach with Resource Sharing in Survivable Elastic Optical Networks <i>Satkunarajah Suthaharan, Lathagini Sivarasa, and Dimuth Prasanna</i>
02.35 pm - 02.50 pm	100	Microservice Based Edge Computing Architecture for Internet of Things <i>RMBS Nisansala, SAGL Chandrasiri, LBS Prasadika, and U Jayasinghe</i>
02.50 pm - 03.05 pm	121	A Blockchain-Based Model to Improve Patent Authentication and Management Process <i>Prageeth Thilina Gunasekara and Chathura Rajapakse</i>
03.05 pm - 03.20 pm	153	A Parallel Distributed Cluster Computing Model for Z-score Computation in Respect of Sri Lankan University Admissions <i>K Santhanakrishnan and V Senthoran</i>
03.20 pm – 03.30 pm	QA Session	
03.30 pm – 03.40 pm	Summing up by the Chair	

Day	24th February 2022	
Venue	LT 203	
Time	01.45 pm – 04.20 pm	
Session	Human-Computer Interaction and Computer Vision Track	
Session Chair	Dr. K Karunanayake	
Panel Members	Dr Thilina Halloluwa & Dr Thushani A. Weerasinghe,	
Rapporteur	Mr. RL Dangalla	
Session Coordinator	Ms. PMAK Wijeratne	
01.45 pm – 02.00 pm	Introduction of the Chair	
02.00 pm – 02.20 pm	Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors
02.20 pm - 02.35 pm	56	Review On Hand Gesture Recognition for Bengali Sign Language <i>Damitha Perera, Bimsara Kanchana, Rojith Peiris, Kasun Madushan, and Dharshana Kasthurirathna</i>
02.35 pm - 02.50 pm	75	CNN Based Fundus Images Classification for Glaucoma Identification <i>KWT Shyamalee and DA Meedeniya</i>
02.50 pm - 03.15 pm	82	Single-User 2D Gaze Estimation in Retail Environment Using Deep Learning <i>Primesh Pathirana, Shashimal Senarath, Dulani Meedeniya, and Sampath Jayarathna</i>
03.15 pm - 03.30 pm	90	Interpretable Machine Learning for Brain Tumor Analysis Using MRI <i>Sasmitha Dasanayaka, Sanju Silva, Vimuth Shantha, Dulani Meedeniya, and Thanuja Ambegoda</i>
03.30 pm - 03.45 pm	111	Translation of Sri Lankan Sign Language to Sinhala Text: A Leap Motion Technology-based Approach <i>RM Rishan, S Jayalal, and TK Wijayasiriwardhane</i>
03.45 pm - 04.00 pm	125	Underwater Image Enhancement Using Dual Convolutional Neural Network with Skip Connections <i>Anparasy Sivaanpu, Rasika Priyadarshani, and Thanikasalam Kokul</i>
04.00 pm – 04.10 pm	QA Session	
04.10 pm – 04.20 pm	Summing up by the Chair	

Day		24 th February 2022
Venue		LT 101
Time		01.45 pm – 04.00 pm
Session		Knowledge Management and Information Systems Track
Session Chair		Prof. KSL Gunawardena
Panel Members		Dr. Anuradha Karunasena & Dr Nuwan Kuruwitarachi
Rapporteur		Dr. T Bhagya
Session Coordinator		Ms. KGL Chathumini
01.45 pm – 02.00 pm		Introduction of the Chair
02.00 pm – 02.20 pm		Plenary Speech by the Chair
Time	Paper ID	Paper Title and Authors
02.20 pm - 02.35 pm	115	Factors Affecting the Usage of Cloud-Based Project Management Software in Software Development Industry of Sri Lanka <i>LI Assalaarachchi, KPKH Silva, and C Hewagamage</i>
02.35 pm - 02.50 pm	127	General Data Protection Regulation (GDPR) Adoption in Sri Lankan Businesses: A Data Governance Model <i>P. A. I. S. Ranathunga and A. P. R. Wickramarachchi</i>
02.50 pm - 03.05 pm	175	Applying Transformer Models for Disease Named Entity Recognition <i>ST Jarashanth and RD Nawarathna</i>
03.05 pm - 03.20 pm	182	Development of Novel Resource Flow Model Towards a Digital Transformation Framework for the Sri Lankan Handicraft Supply Chain <i>Panawennage Hansika and Chathura Rajapakse</i>
03.20 pm – 03.30 pm		QA Session
03.30 pm – 03.40 pm		Summing up by the Chair

Day		24 th February 2022
Venue		LT 102
Time		01.45 pm – 04.00 pm
Session		Industry R&D Track
Session Chair		Ms. H Mahalaksha
Panel Members		Dr Udaya Wijenayake & Dr Nishan Dharmaweera
Rapporteur		Ms. WWSK Wasalthilaka
Session Coordinator		Ms. R Nirubikaa
01.45 pm – 02.00 pm		Introduction of the Chair
02.00 pm – 02.20 pm		Plenary Speech by the Chair
Time	Paper ID	Paper Title and Authors
02.20 pm - 02.35 pm	78	Liver Tumor Identification GUI using MATLAB Image Processing <i>LI Assalaarachchi, KPKH Silva, and C Hewagamage</i>
02.35 pm - 02.50 pm	92	Designing a VR Based Solution to Improve Practical Nursing Skills in Sri Lanka <i>KAS Imeshika, ACLP Aluthge, TA Weerasinghe, and KD Sandaruwan</i>
02.50 pm - 03.05 pm	108	Smart Stethoscope: Intelligent Respiratory Disease Prediction System <i>A Subasinghe, A Abeywickrama, H Dissanayake, IS Herath, R Jayaratne, R Dinalankara, S Edirisinghe, and V Jayasooriya</i>
03.05 pm - 03.20 pm	171	Automatic Number Plate Detection using Haar-Cascade Algorithm Proposed for Srilankan Context <i>MRC Niluckshini and MFM Firdhous</i>
03.20 pm - 03.35 pm	190	A Novel Conceptual Chatbot Architecture for the Sinhala Language – A Case Study on Food Ordering Scenario <i>WAP Avishka, Kuhaneswaran Banujan, and HN Gunasinghe</i>
03.35 pm – 03.45 pm		QA Session
03.45 pm – 03.55 pm		Summing up by the Chair

Day		24 th February 2022	
Venue		LT 103	
Time		01.45 pm – 04.00 pm	
Session		Artificial Intelligence and Machine Learning Track (Session 5)	
Session Chair		Prof. BTGS Kumara	
Panel Members		Dr Anusha Jayasiri & Dr Anuradha Jayakody	
Rapporteur		Miss UP Kudagamage	
Session Coordinator		Mr. S Prashanth	
01.45 pm – 02.00 pm		Introduction of the Chair	
02.00 pm – 02.20 pm		Plenary Speech by the Chair	
Time	Paper ID	Paper Title and Authors	
02.20 pm - 02.35 pm	128	Importance of User Representation in Propagation Network-based Fake News Detection: A Critical Review and Potential Improvements <i>Sarith Imaduwege, PPNV Kumara, and WJ Samaraweera</i>	
02.35 pm - 02.50 pm	129	Moving Robots in unknown Environments Using Potential Field Graphs <i>Mithila Panagoda, Minuli Lokuliyange, Amadi Senarath, NKVM Nethmini Nisansala, RWADU Rajapakshe, UU Samantha Rajapaksha, and Chandimal Jayawardena</i>	
02.50 pm - 03.05 pm	141	ROS Supported Heterogeneous Multiple Robots Registration and Communication with User Instructions <i>UU Samantha Rajapaksha, Chandimal Jayawardena, and Bruce A MacDonald</i>	
03.05 pm - 03.20 pm	146	Long-Term Trend Analysis for Social Media Content Published During COVID-19 Pandemic <i>Maneesha Caldera, Nadeera Meedin, Suresha Perera, and Indika Perera</i>	
03.20 pm - 03.35 pm	156	Super Learner for Malicious URL Detection <i>A Hevathige and RMUKV Rathnayake</i>	
03.35 pm - 03.50 pm	159	Multi-Style Printed Sinhala Character Recognition and Digitalization Using Artificial Neural Network <i>YVANT Maduranga and S Jayalal</i>	
03.50 pm – 03.55 pm		QA Session	
03.55 pm – 04.00 pm		Summing up by the Chair	

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