15th IEEE INTERNATIONAL CONFERENCE ON HUMAN SYSTEM INTERACTION

HSI 2022 | Melbourne, Australia

28 – 31 July 2022

PROGRAM

HSI 2022 – WELCOME MESSAGE

MESSAGE FROM THE ORGANISING COMMITTEE

Dear Authors, Invitees, and Delegates,

We warmly welcome you to HSI 2022 - 15th IEEE International Conference on Human System Interaction, at La Trobe University City Campus, Level 3, 360 Collins St Melbourne Australia, 28 – 31 July 2022.

The HSI 2022 conference is a unique and significant international research event in the fields of Human System Interactions, Human System Science and Engineering, and Human Environment Interactions. The conference is technically sponsored by the Industrial Electronics Society of the IEEE, the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.

The HSI conference series was conceptualised and initiated 15 years ago, in Krakow, Poland, 2008. An uninterrupted service of 15 years to research communities and the broader society signifies its contribution to the advancement of theory and practice of HSI. This year the conference is sponsored and organised by the Centre for Data Analytics and Cognition (CDAC), the leading research centre at La Trobe University, Australia for fundamental and applied research in Artificial Intelligence, HSI, Analytics, Automation and AI Ethics.

We received 94 submissions from 300+ co-authors in 38 countries across the six continents. Each manuscript was peer-reviewed by at least two domain experts and acceptance decisions were based on two consistent recommendations, which demonstrates the high quality and standards of HSI 2022. We accepted 72 papers (76%) which are scheduled into 13 sessions as documented in this program. A large majority of the papers (81%) will be presented in-person, a monumental achievement that signifies post-pandemic recovery and the outstanding effort of the HSI 2022 local organising committee, CDAC and the IEEE IES. The conference proceedings include a position paper on HSI that reviews the past 15 years and heralds a paradigm shift into Artificial Intelligence in HSI, 'Human-System-AI-Iinteraction'.

We are honoured to have three keynotes presented by distinguished speakers, four seminal topics deliberated by invited speakers at the HSI Deep Learning Workshop and the Women in STEM forum dedicated to discussing the critical social factor impeding research progress.

We acknowledge and appreciate the time, interest and effort expended by the distinguished keynote speakers, invited speakers, reviewers, session chairs, organising committee members, support staff, technology providers and most importantly the authors, for coming together to collectively 'create' this conference and entrusting us to deliver a long-awaited, in-person conference experience. Thank you.

We wish you an insightful, enjoyable and memorable HSI 2022 in Melbourne, Australia!

Organising Committee, HSI 2022.

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HSI 2022 – PROGRAM OVERVIEW

	Thursday 28 July 2022	Friday 29 July 2022	Saturday 30 July 2022		Sunday 31 July 2022	
	Day 0 - HSI Deep Learning Workshop	Day 1 - HSI 2022	Day 2 - HSI 2022		Day 3 - HSI 2022	
0800 – 0900	Registration Desk Opens	Registration Desk Opens	Registration Desk Opens		Registration Desk Opens	
	Welcome + HSI Hackathon Launch	Welcome to HSI 2022				
0900 – 1030	W1 - Time Series Forecasting for Energy AI by Dr Kasun Bandara and Team CDAC	Keynote 1 Graph Neural Networks at AWS AI by Professor George Karypis	Keynote 2 Explainable AI in Cyber-Physical Systems by Professor Milos Manic		Keynote 3 AGI & Self-Structuring AI by Professor Damminda Alahakoon	
1030 – 1100	Morning Tea	Morning Tea	Morning Tea		Morning Tea	
1100 – 1230	W2 - CNNs for Computer Vision by Professor Jacek Rumiński	Plenary Session: Seminal Advances in Human System Interaction	Session 3.1: Advances in Tactile and Kinesthetic Interfaces	Session 3.2: Visual Media Computing and Cognitive Modeling	Session 6.1: Innovations in Healthcare and Human Emotions	Session 6.2: Emerging Technologies in Human System Interaction
1230 – 1330	Lunch	Lunch	Lunch		Lunch	
1330 – 1500	W3 - Gesture-Based Machine Interaction by Dr Tomasz Kocejko	Session 1.1: Advances in Robot and Sensor Interactions	Session 1.2: Net Zero Emissions and Energy AI	Session 4.1: Advances in Human Activity and Facial Recognition	Session 4.2: Innovations in Pedestrian and Transport Systems Interaction	End of Conference
1500 – 1530	Afternoon Tea	Afternoon Tea	Afternoon Tea			
1530 – 1700	W4 - Women in STEM Opportunities and Challenges Open Event by Team CDAC	Session 2.1: Advances in Ocular and Brain Interfaces	Session 2.2: Energy AI, Telediagnostics and Blockchain	Session 5.1: Advances in Virtual Reality and Voice Assistants	Session 5.2: Innovations in Human-centric AI and Systems Interaction	
1700 – 1830	W5 - Hyperdimensional Computing and Neuromorphic AI by Team CDAC	HSI2022 Welcome Reception at the La Trobe City Campus (Canapes and Drinks) Starts at 6:00 pm	HSI2022 Conference Dinner & Awards Ceremony at the Melbourne Aquarium (ticketed event) Starts at 6:00 pm			
1830 – 2100	HSI2022 Deep Learning Trivia Night at the La Trobe City Campus (Pizza and Drinks)					
	End of Day 0	End of Day 1	End of Day 2			

Session	Location	Start	End	Paper Title	Authors/Speaker
Workshop	Plenary Room	9:00 AM	10:30 AM	Time Series Forecasting for Energy AI	Dr Kasun Bandara and Team CDAC
Break		10:30 AM	11:00 AM	Morning Tea	
Workshop	Plenary Room	11:00 AM	12:30 PM	Convolutional Neural Networks for Computer Vision	Professor Jacek Rumiński
Break		12:30 PM	1:30 PM	Lunch	
Workshop	Plenary Room	1:30 PM	3.:00 PM	Gesture-Based Machine Interaction	Dr Tomasz Kocejko
Break		3:00 PM	3:30 PM	Afternoon Tea	
Workshop	Plenary Room	3:30 PM	5:00 PM	Women in STEM: Opportunities and Challenges	Dr Achini Adikari and Team CDAC
Workshop	Plenary Room	5:00 PM	6:30 PM	Hyperdimensional Computing and Neuromorphic AI	Team CDAC
HSI Social Event	Plenary Room	6:30 PM	9:00 PM	HSI Trivia Night with Pizza and Drinks	

HSI 2022 Day 1 – Friday 29 July 2022

Session	Location	Start	End	Paper Title	Authors/Speaker
Opening Keynote	**Plenary Room**	**9:00 AM**	**10:30 AM**	**Graph Neural Network Research at AWS AI**	**Professor George Karypis FIEEE, University of Minnesota, Amazon AI, USA**
Break		10:30 AM	11:00 AM	Morning Tea	
Fri 29 July Plenary Session: Seminal Advances in Human System Interaction 11:00 – 12:30 PM Chairs: Prof. Jacek Rumiński and Dr. Rashmika Nawaratne	Plenary Room	11:00 AM	11:18 AM	Human System Interaction in Review: Opportunities and Challenges for Artificial Intelligence	Daswin De Silva, Rashmika Nawaratne, Jacek Ruminski, Aleksander Malinowski, Milos Manic
	Plenary Room	11:18 AM	11:36 AM	Preferred Benchmarking Criteria for Systematic Taxonomy of Embedded Platforms (STEP) in Human System Interaction Systems	Alicja Kwasniewska, Sharath Raghava, Carlos Davila, Mikael Sevenier, David Gamba, Jacek Ruminski
	Plenary Room	11:36 AM	11:54 AM	Systems Dynamics Modeling for Evaluating Socio-Technical Vulnerabilities in Advanced Persistent Threats	Mathew Nicho, Shini Girija
	Plenary Room	11:54 AM	12:12 PM	An Interdisciplinary View on Humane Interfaces for Digital Shadows in the Internet of Production	Sebastian Pütz, Ralph Baier, Philipp Brauner, Florian Brillowski, Hannah Dammers, Luca Liehner, Alexander Mertens, Niklas Rodemann, Sebastian Schneider, Alexander Schollemann, Linda Steuer-Dankert, Luisa Vervier, Thomas Gries, Carmen Leicht-Scholten, Saskia K. Nagel, Frank T. Piller, Günther Schuh, Martina Ziefle, Verena Nitsch
	Plenary Room	12:12 PM	12:30 PM	Perception of Supporting Agents Based on the Cognitive Responses of Recipients in a Helping Situation	Masanari Ichikawa, Takafumi Sakamoto, Yugo Takeuchi
Break		12:30 PM	1:30 PM	Lunch	
Fri 29 July Session 1.1: Advances in Robot and Sensor Interactions 1:30 – 3:00 PM Chairs: Prof. Young Soo Suh and Bibhu Sharma	Room 1	1:30 PM	1:48 PM	Gait analysis using body-installed RGB-D camera and inertial sensors	Young Soo Suh, Duc Cong Dang
	Room 1	1:48 PM	2:06 PM	Comparison Study of inertial Sensor Signal Combination for Human Activity Recognition Based on Convolutional Neural Networks	Farhad Nazari, Navid Mohajer, Darius Nahavandi, Abbas Khosravi, Saeid Nahavandi
	Room 1	2:06 PM	2:24 PM	Optimal placement of IMU Sensor for the detection of children Activity	Magdalena Madej, Jacek Ruminski
	Room 1	2:24 PM	2:42 PM	5G for Low-latency Human-Robot Collaborations; Challenges and Solutions	Aptin Babaei, Parham Kebria, Saeid Nahavandi
	Room 1	2:42 PM	3:00 PM	Physical Human-Robot Interaction (pHRI) through Admittance Control of Dynamic Movement Primitives in Sit-to-Stand Assistance Robot	Bibhu Sharma, Jackrit Suthakorn, Branesh M. Pillai

Session	Location	Start	End	Paper Title	Authors/Speaker
Fri 29 July Session 1.2: Net Zero Emissions and Energy AI 1:30 – 3:00 PM Chairs: Andrew Jennings and Nishan Mills	Room 2	1:30 PM	1:48 PM	A Hybrid Tree-Based Ensemble Learning Model for Day-Ahead Peak Load Forecasting	Jihoon Moon, Sungwoo Park, Eenjun Hwang, Seungmin Rho
	Room 2	1:48 PM	2:06 PM	Environmental and Social monitoring in existing building structures – results of a case study within several historical buildings	Alex Redlein, Lisa Thrainer
	Room 2	2:06 PM	2:24 PM	Cloud Edge Architecture Leveraging Artificial Intelligence and Analytics for Microgrid Energy Optimisation and Net Zero Carbon Emissions	Nishan Mills, Harsha Moraliyage, Prabod Rathnayaka, Daswin de Silva, Andrew Jennings
	Room 2	2:24 PM	2:42 PM	UNICON: An Open Dataset of Electricity, Gas and Water Consumption in a Large Multi-Campus University Setting	Harsha Moraliyage, Nishan Mills, Prabod Rathnayaka, Daswin de Silva, Andrew Jennings
	Room 2	2:42 PM	3:00 PM	Specialist vs Generalist: A Transformer Architecture for Global Forecasting Energy Time Series	Prabod Rathnayaka, Harsha Moraliyage, Nishan Mills, Daswin de Silva, Andrew Jennings
Break		3:00 PM	3:30 PM	Afternoon Tea	
Fri 29 July Session 2.1: Advances in Ocular and Brain Interfaces 3:30 – 5:20 PM Chairs: Dr. Tomasz Kocejko and Dr. Mengjie Huang	Room 1	3:30 PM	3:48 PM	Eye-tracking everywhere - software Supporting disabled people in Interaction with computers	Tomasz Kocejko, Klaudia Solska
	Room 1	3:48 PM	4:06 PM	Blink recognition using flexible graphene stress sensor and RFID chipless tagging technology	Yaning Li, Lang Xiao, Wenjun Yang, Yafeng Niu
	Room 1	4:06 PM	4:24 PM	A method for distinguishing between involuntary and voluntary blinks based on graphene sensor	Qu Mengyuan, Zuo Hongrui, Yang Wenjun, Yafeng Niu
	Room 1	4:24 PM	4:42 PM	A Dynamic Adjustment System of Vehicle Rearview Mirror Gaze detection	Zijian Han, Yafeng Niu, Wenjun Yang
	Room 1	4:42 PM	5:00 PM	Deep learning approach on surface EEG Based Brain Computer Interface	Tomasz Kocejko, Lukasz Radzinski
	Room 1	5:00 PM	5:18 PM	EEG error-related potentials elicited by user-initiated errors at different levels of game difficulty	Yuting Zheng, Mengjie Huang, Rui Yang
Fri 29 July Session 2.2: Energy AI, Telediagnostics and Blockchain 3:30 – 5:20 PM Chairs: Andrew Jennings and Nishan Mills	Room 2	3:30 PM	3:48 PM	Data-Correlation Energy Management of Smart Homes with Rooftop Photovoltaic and Plug-in Electric Vehicles	Haoyong Chen, Zipeng Liang
	Room 2	3:48 PM	4:06 PM	UNISOLAR: An Open Dataset of Photovoltaic Solar Energy Generation in a Large Multi-Campus University Setting	Shashini Wimalaratne, Dilantha Haputhanthri, Sachin Kahawala, Gihan Sameera Wiriththamulla Gamage, Damminda Alahakoon, Andrew Jennings
	Room 2	4:06 PM	4:24 PM	Comparative Evaluation of Gradient Boosting with Active Thresholding and Model Explainability for Peak Demand Forecasting	Sachin Kahawala, Dilantha Haputhanthri, Harsha Moraliyage, Sashini Wimalaratne, Damminda Alahakoon, Andrew Jennings
	Room 2	4:24 PM	4:42 PM	Cooee: An Artificial Intelligence Chatbot for Complex Energy Environments	Gihan Sameera Wiriththamulla Gamage, Nishan Mills, Prabod Rathnayaka, Andrew Jennings, Damminda Alahakoon
	Room 2	4:42 PM	5:00 PM	Computer Aided Telediagnostics System for Stoma Patients	Rafał Zawislak, Mariusz Szwoch, Grzegorz Granosik, Anna Miarka, Joanna Mik-Wojtczak, Michał Mik
	Room 2	5:00 PM	5:18 PM	An Analysis of the Features Considerable for NFT Recommendations	Dinuka Piyadigama, Guhanathan Poravi
HSI social event	Plenary	6:00 PM	9:00 PM	HSI 2022 Welcome Reception - Plenary Room, Conference Venue	

Session	Location	Start	End	Paper Title	Authors/Speaker
HSI 2022 Day 2 – Saturday 30 July 2022					
Keynote	**Plenary Room**	**9:00 AM**	**10:30 AM**	**Explainable AI in Cyber-Physical Systems**	**Professor Milos Manic FIEEE, Virginia Commonwealth University, USA**
Break		10:30 AM	11:00 AM	Morning Tea	
Sat 30 July Session 3.1: Advances in Tactile and Kinesthetics Interfaces 11:00 – 12:30 PM Chairs: Prof. Yutang Wang and Dr. Tomasz Neumann	Room 1	11:00 AM	11:18 AM	Motion-Copying System Based on Modelling of Finger Force Characteristics using Upper Limb-EMG	Daiki Sodenaga, Kosuke Egawa, Seiichiro Katsura
	Room 1	11:18 AM	11:36 AM	Servo Control of Finger MP Joint by Functional Electrical Stimulation of Lumbrical and Extensor Digitorum Muscle	Issei Ikura, Seiichiro Katsura
	Room 1	11:36 AM	11:54 AM	Predicting Human Performance in Vertical Hierarchical Menu Selection in Immersive AR Using Hand-gesture and Head-gaze	Majid Pourmemar, Charalambos Poullis, Yashas Joshi
	Room 1	11:54 AM	12:12 PM	Identification of Wrist Elastic Moment in Healthy Subjects for Control by Functional Electrical Stimulation	Akinori Shimomura, Seiichiro Katsura
	Room 1	12:12 PM	12:30 PM	Joint Space Based Force Sensorless Bilateral Control with BP Neural Network Gravity Compensation for 6-PSS Parallel Actuator	Jiangtao Zheng, Yutang Wang, Chengwei Lu, Dapeng Tian
Sat 30 July Session 3.2: Visual Media Computing and Cognitive Modelling 11:00 – 12:30 PM Chairs: Dr. Jeongho Cho and Dr. Abid Hussain	Room 2	11:00 AM	11:18 AM	HANDS: enHancing Academic performaNce via Deep foreSt	Huiyan Qiao, Yuling Ma, Yilong Yin
	Room 2	11:18 AM	11:36 AM	analysis of the influence of external conditions on temperature readings in thermograms and adaptive Adjustment of the measured temperature value	Piotr Filipowicz, Mateusz Kowalewski, Kinga Słomińska, Mariusz Kaczmarek
	Room 2	11:36 AM	11:54 AM	Local Detail Enhancement Network for CNV Typing in OCT Images	chuanzhen xu, Xiaoming Xi, Xiao Yang, Sun Liangyun, Lingzhao Meng, Xiushan Nie
	Room 2	11:54 AM	12:12 PM	Attention-based Interactions Network for Breast Tumor Classification with Multi-modality Images	Xiao Yang, Xiaoming Xi, Chuanzhen xu,Liangyun Sun, Lingzhao Meng, Xiushan Nie
	Room 2	12:12 PM	12:30 PM	Comparison of image pre-processing methods in liver segmentation task	Kamil Kaczor, Paweł Nadachowski, Maksymilian Operlejn, Artur Piastowski, Marta Zielonka, Jan Cychnerski, Alicja Kwaśniewska
Break		12:30 PM	1:30 PM	Lunch	
Sat 30 July Session 4.1: Advances in Human Activity and Facial Recognition 1:30 – 3:00 PM Chairs: Prof. Kanghyun Jo and Prof. Eenjun Hwang	Room 1	1:30 PM	1:48 PM	Fine-Grained Soccer Actions Classification using Deep Neural Network	ANIK SEN, Syed Md. Minhaz Hossain, Mohammad Ashraf Russo, Kaushik Deb, Kanghyun Jo
	Room 1	1:48 PM	2:06 PM	Towards Safety in Open-field Agricultural Robotic Applications: A Method for Human Risk Assessment using Classifiers	Jose Carlos Mayoral Banos, Lars Grimstad, Pål Johan From, Grzegorz Cielniak
	Room 1	2:06 PM	2:24 PM	Person Search via Background and Foreground Contrastive learning	Qing Tang, Kanghyun Jo
	Room 1	2:24 PM	2:42 PM	Face De-Identification Scheme using Landmark-Based Inpainting	Hyeonwoo Kim, Junsuk Lee, Eenjun Hwang
	Room 1	2:42 PM	3:00 PM	Face Super-resolution Based on Multi-source References	Hui Yu, Muwei Jian, Rui Wang

Session	Location	Start	End	Paper Title	Authors/Speaker
Sat 30 July Session 4.2: Innovations in Pedestrian and Transport Systems Interaction 1:30 – 3:20 PM Chairs: Prof. Jacek Rumiński and Prof. Yihsin Ho	Room 2	1:30 PM	1:48 PM	Pothole-related Traffic Safety Detection based on Deep Learning	Weiyu Wang, Yihsin Ho
	Room 2	1:48 PM	2:06 PM	AITP - AI Thermal Pedestrians Dataset	Aleksandra Górska, Patrycja Guzal, Iga Namiotko, Aleksandra Wędołowska, Martyna Włoszczyńska, Jacek Ruminski
	Room 2	2:06 PM	2:24 PM	Pedestrian detection in low-resolution thermal images	Aleksandra Górska,Patrycja Guzal, Iga Namiotko, Aleksandra Wędołowska, Martyna Włoszczyńska, Jacek Rumiski
	Room 2	2:24 PM	2:42 PM	Autonomous Driving Systems: An Overview of Challenges in Safety, Reliability and Privacy	Ruqaiyah Memon, Keyvan Arezoo, Khalil Alipour, Mohammad Ghamari
	Room 2	2:42 PM	3:00 PM	Vehicle Identification and Classification for Smart Transportation using Artificial Intelligence- A Review	Jagdish Patni
	Room 2	3:00 PM	3:18 PM	Road Traffic Network Division for a Parallel Dynamic Network Loading Algorithm	Tomas Potuzak, Frantisek Kolovsky
Break		3:00 PM	3:30 PM	Afternoon Tea	
Sat 30 July Session 5.1: Advances in Virtual Reality and Voice Assistants 3:30 – 5:20 PM Chairs: Prof. Kaushik Deb and Prof. Thilo Sauter	Room 1	3:30 PM	3:48 PM	Intelligent Voice Assistants in home care: an initial overview on requirements, hopes and fears of professionals	Edith Birrer, Martin Biallas
	Room 1	3:48 PM	4:06 PM	"Totally Unnecessary" or "Simply Convenient" – About Users and Non-Users of Voice Assistants	Bettina Pospisil, Thilo Sauter, Albert Treytl, Edith Huber, Walter Seboeck
	Room 1	4:06 PM	4:24 PM	Personalised Physiotherapy Rehabilitation using Artificial Intelligence and Virtual Reality Gaming	Thimal Kempitiya, Daswin de Silva, Ebonie Rio, Richard Skarbez, Damminda Alahakoon
	Room 1	4:24 PM	4:42 PM	A Virtual Reality Study Investigating the Effect of Cybersickness on the Relationship Between Vection and Presence Across Environments with Varying Levels of Ecological Relevance	Shady Mohamed, Saeid Nahavandi, Lars Kooijman, Houshyar Asadi
	Room 1	4:42 PM	5:00 PM	Large monitors reduce tracking error in robot-assisted visual-motor tasks	Fabio Stroppa, Farshid Amirabdollahian, Antonio Frisoli
	Room 1	5:00 PM	5:18 PM	How Virtual Body Continuity with Different Hand Representations Influence on User Perceptions and Task Performance	Jingjing Zhang, Mengjie Huang, Xiaohang Tang, Yiqi Wang, Rui Yang
Sat 30 July Session 5.2: Innovations in Human-centric AI and Systems Interaction 3:30 – 5:20 PM Chairs: Prof. Sho Yokota and Prof. Carsten Röcker	Room 2	3:30 PM	3:48 PM	Effect of Embodiment and Improving Japanese Students` English Pronunciation and Prosody with Humanoid Robot	Evan Krisdityawan, Sho Yokota, Akihiro Matsumoto, Daisuke Chugo, Satoshi Muramatsu, Hiroshi Hashimoto
	Room 2	3:48 PM	4:06 PM	User Expectations Regarding Design Dimensions of Adaptative Assistance Systems	Mario Heinz-Jakobs, Hendrik Oestreich, Sebastian Wrede, Carsten Röcker
	Room 2	4:06 PM	4:24 PM	What Design Choices are Effective in Inducing Fear and Tension in First-Person PC Horror Games?	Kai-Lun Liao, Mengjie Huang, Rui Yang
	Room 2	4:24 PM	4:42 PM	Comparative Modern Retail Landscapes of Thai Retail Format Types: Omni-Channel and Value Proposition Perspectives	Korakit Piyamongkol, Singha Chaveesuk
	Room 2	4:42 PM	5:00 PM	Interactive Painting Volumetric Cloud Scenes with Simple Sketches Based on Deep Learning	Lida Huang, Mirjam Palosaari Eladhari, Sindri Magnússon, Thomas Westin, Nanxu Su
	Room 2	5:00 PM	5:18 PM	Influence of Font Type on the Aesthetics Evaluation of Food Packaging	Xiaotong Chen, Wencheng Tang
HSI Social Event	External	6:00 PM	10:00 PM	HSI 2022 Conference Dinner – Melbourne Aquarium, King St, Melbourne	

HSI 2022 Day 3 – Sunday 31 July 2022

Session	Location	Start	End	Paper Title	Authors/Speaker
Keynote	**Plenary Room**	**9:00 AM**	**10:30 AM**	**Towards an Artificial General Intelligence with Self-Structuring AI**	**Professor Damminda Alahakoon, La Trobe University, Australia**
Break		10:30 AM	11:00 AM	Morning Tea	
Sun 31 July Session 6.1: Innovations in Healthcare and Human Emotions 11:00 – 12:50 PM Chairs: Dr. Lisa Thrainer and Dr. Achini Adikari	Room 1	11:00 AM	11:18 AM	Psychosocial Demands and the Acceptance of Mental Health Risk Monitoring Systems at Work	Vera Barbara Rick, Christopher Brandl, Alexander Mertens, Verena Nitsch
	Room 1	11:18 AM	11:36 AM	An Artificial Intelligence Framework for the detection of Emotion Transitions in Telehealth Services	Sajani Ranasinghe, Gihan Sameera Wiriththamulla Gamage, Harsha Moraliyage, Nishan Mills, Nikki McCaffrey, Jessica Bucholc, Katherine Lane, Angela Cahill, Vicki White, Daswin de Silva
	Room 1	11:36 AM	11:54 AM	ScSer: Supervised Contrastive Learning for Speech Emotion Recognition using Transformers	Varun Sai Alaparthi, Tejeswara Reddy, Deepak Abhiram Inagandla, Jay Prakash, Pramod Kumar Singh
	Room 1	11:54 AM	12:12 PM	Investigating COVID-19 Vaccine Messaging in Online Social Networks using Artificial Intelligence	Kirishnni Prabagar, Kogul Srikandabala, Nilaan Loganathan, Daswin de Silva, Gihan Gamage, Prabod Rathnayaka, Shehan Perera, Damminda Alahakoon
	Room 1	12:12 PM	12:30 PM	A BERT-Based Idiom detection Model	Gihan Sameera Wiriththamulla Gamage, Daswin de Silva, Achini Adikari, Damminda Alahakoon
	Room 1	12:30 PM	12:48 PM	Sperm segmentation and abnormalities detection during the ICSI procedure using machine learning algorithms	Aleksandra Fraczek, Gabriela Karwowska, Anna Jezierska, Magda Mazur-Milecka, Joanna Liss, Mateusz Miler
Sun 31 July Session 6.2: Emerging Technologies in Human System Interaction 11:00 – 12:50 PM Chairs: Prof. Seiichiro Katsura and Harsha Moraliyage	Room 2	11:00 AM	11:18 AM	A survey on Automation Technologies used in Network Control and Management	Aptin Babaei, Parham Kebria, Saeid Nahavandi
	Room 2	11:18 AM	11:36 AM	Programmable smart articulated Interface	Jaafar Gaber, Souad Tayane, Mohamed Ennaji, Ahmed Amine Chafik
	Room 2	11:36 AM	11:54 AM	Microtransactions in VR. a qualitative Comparison Between Voice User Interface and graphical User Interface	Karolina Buchta, Piotr Wójcik, Justyna Janicka, Damian Gałuszka, Radosław Sterna, Magdalena Igras-Cybulska
	Room 2	11:54 AM	12:12 PM	Communication Efficient Federated Learning Framework with Local Momentum	Renyou Xie, Xiaojun Zhou
	Room 2	12:12 PM	12:30 PM	A Comparison of Time-Frequency Distributions for Deep learning-Based Speech Assessment of Aphasic Patients	Akshay Kumar, Seedahmed S. Mahmoud, Yin Wang, Serri Faisal, Qiang Fang
	Room 2	12:30 PM	12:48 PM	Evaluating the Adversarial Robustness of Text Classifiers in Hyperdimensional Computing	Harsha Moraliyage, Sachin Kahawala, Daswin de Silva, Damminda Alahakoon
Break		12:30 PM	2:00 PM	Lunch & End of Conference	