

## THE 2<sup>nd</sup> INTERNATIONAL CONFERENCE ON ADVANCES IN INFORMATION AND COMMUNICATION TECHNOLOGY (ICTA 2023) ICTU, 13-14 December, 2023

https://icta.ictu.edu.vn

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13h00-13h30	Registration and welcoming delegates & participants		
13h30-13h45	ICTA 2023 Opening Ceremony		
13h45-13h50	ICTU Brief Introduction		
13h50-13h55	<b>Opening remark</b> Assoc.Prof. Dr. Phung Trung Nghia - ICTU Rector, ICTA 2023 General Co-Chai		
13h55-14h00	Welcome Speech Prof. Dr. Hoang Van Hung, TNU President, ICTA 2023 General Co-Chair		
14h00-14h10	ICTA 2023 Plenary Speech Prof. Dr. Nguyen Thanh Thuy, VNU-University of Engineering and Techno FISU Vietnam President, ICTA 2023 General Co-Chair		
	13 DECEMBER 2023 - PLENARY SESSION		
14h10-15h40	Keynote SpeechesChair 1: Prof. Dr. Huynh Van Nam, Japan Advanced Institute of Science and Technology, JapanKeynote Speech 1: Exploitation of Electronic Medical RecordsProf. Dr. Ho Tu Bao, Institute for Advanced Study in Mathematics, Vietnam Keynote Speech 2: Advancing Slope Land Disaster Monitoring and Alert Systems through Synergistic IoT and AI Integration Prof. Dr. Tien-Yin Chou, Feng Chia University, TaiwanChair 2: Prof. Dr. Dongkyun Kim, Kyungpook National University, Korea Keynote Speech 3: Audio/Speech Information Hiding Based on Human Audit CharacteristicsProf. Dr. Masashi Unoki, Japan Advanced Institute of Science and Technology, Ja Keynote Speech 4: Research on Intrusion Detection on Host DevicesProf. Dr. Ren-Hung Hwang, College of Artificial Intelligence, National Yang Mi Chiao Tung University, Taiwan		
15h40-15h50	Group photos		
15h40-15h50	Group photos		

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13 DECEMBER 2023 - PARALLEL SESSIONS				
Sessions	Paper ID	Paper titles & Auhors		
Session 1:	145	A combination of Active learning and Deep learning for improving breast cancer prediction Huong Hoang Luong, Hai Thanh Nguyen and Thai-Nghe Nguyen		
Artificial Intelligence 1 Room C2.101	225	A Novel Arm Bone Fracture Detection Using Deep Learning Huy Hoang Nguyen, Tuan Khoi Nghiem and Ngoc Minh Dang		
16h00-17h30	115	A systematic review of Artificial Intelligence in Geographic Information Systems Kim-Son Nguyen, The-Vinh Nguyen and Duc-Binh Nguyen		
	107	Build an effective system for container code recognition Nong Thi Hoa and Nguyen Van Tao		
	126	A Real-time Crowd Density Level Detection System Dinh-Lam Pham, Thanh-Hai Nguyen, Kyong-Sook Kim, and Kwanghoon Pio Kim		
Session 2: Artificial Intelligence 2 Room C2.102	149	An Architecture for More Fine-grained Hidden Representation in Named Entity Recognition for Biomedical Texts Bui Duc Tho, Son-Ba Giang, Minh-Tien Nguyen, and Tri-Thanh Nguyen		
16h00-17h30	153	<b>DCDynUnet: Deep Supervision Attention Context for Brain Segmentation</b> Vo Thanh Hoang Son, Tran Nguyen Quynh Tram, Nguyen Quoc Huy, Do Nhu Tai		
	14	<b>Choosing data points to label for semi-supervised learning based on neighborhood</b> Dinh-Minh Vu, Thanh-Son Nguyen, Trung-Nghia Phung and Trinh-Hoang Vu		
	162	A Closely Spaced Multi-Element Self-Isolated MIMO Antenna Array Tan Dao-Duc, Nguyen Sy Hiep, Duc-Nguyen Tran Viet and Huy-Hung Tran		
Session 3: Electronics	117	A Comparative of Positive Real Truncation and H-infinity Reduction Techniques for Model Simplification in Electrical Circuits and Power Systems Thanh-Tung Nguyen, Ngoc-Kien Vu and Huy-Du Dao		
Room C2.103 16h00-17h30	148	A Low Noise 10-Bit 59.41dB SNR SAR ADC Using Chopper Comparator for Biomedical Applications Xuan Thanh Pham, Viet Ha Nguyen Thi, Van Thai Le, Thi Thu Huong Tran, Trung-Nghia Phung and Manh Kha Hoang		
	179	Approach New Framework of Compressive Sensing Based Secret Sharing in Wireless Sensor Network: Theory and Applications Thang C. Vu, Minh T. Nguyen, Tao V. Nguyen, Quynh C. Le		
	18	A case study on the kinematics analysis of a self-stabilizing dual-wheeled mobile robot Von Dim Nguyen and Van Tung Bui		
Session 4: Control and Automation	175	A Finite-Time Recursion-based Tracking Control for Under-Actuated Autonomous Underwater Vehicles Ngo Sy Thanh Tung, Do Manh Dung, Le Xuan Hai, Phan Xuan Minh, Nguyen Duc Khoa Hoang Duc Quynh		
Room C2.201 16h00-17h30	135	A Reinforcement Learning Method for Control Scheme of Permanent Magnet Synchronous Motor Xuan Khanh Tran, Duy Tung Le, Duc Thuan Tran, Phuong Nam Dao		
	170	An effective intelligent control strategy for the inverted pendulum system on a cart applies a hierarchical sliding mode control technique combined with an adaptive RBF neural network Minh Xuan Dinh, Do Manh Dung, Hai Xuan Le, Ngoc Thanh Pham, Dam Bao Loc and Quynh Hoang Duc		

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Session 5: Multimedia Room C2.202 16h00-17h30	56	A Lightweight Attention Model for Face Recognition Duc-Quang Vu, Thu Hien Nguyen, Danh Vu Nguyen, Yen Quynh Nguyen, Trung-Nghia Phung, and Trang Phung T. Thu			
	67	Assessment of video transmission delay from a telemetry surveillance system Nguyen Toan Thang and Dinh Xuan Lam			
	142	Automatic Identification of Vietnamese Singer Voices Using Deep Learning and Data Augmentation Dao Thi Le Thuy, Chu Ba Thanh, Trinh Van Loan and Le Xuan Thanh			
	2	The impact of the construction of a virtual Traditional Room on virtual tour support using digital transformation technology: A case study of Thai Nguyen Chuyen High School Nguyen Van Huan, Nguyen Manh Hung, Nguyen Thi Hang and Truong Thi Viet Phuong			
	12	A Bibliometric and Thematic Analysis of Systematic Reviews of Artificial Intelligence in Education Vinh, Nguyen-The, Nghia Phung-Trung and Cuong, Do-Dinh			
Session 6: Digital Economics and	16	A Study on Electronic Payments and Economic Growth: Evidence in Vietnam Before and During Covid-19 Pandemic Nguyen Thi Vu Khuyen			
Management Room C2.203 <i>16h00-17h30</i>	157	BALANGAY: Navigating Innovation Through Design Thinking Approach for a Boat Reservation and Booking System Jules Vincent C. Banta, Roselyn A. Maaño, Mikaela S. Quinsanos, Mico Jhosua A. Oriola, Osias Robert O. Paderez, John Rover R. Sinag, Donabell S. Hernandez, Leah T. Salas, Nguyen Duc Binh			
	166	<b>Cryptocurrency Investment using the Analytic Hierarchy Process</b> Nguyen Tran Le, Nguyen Thi Kim Lien, Do Nhu Tai			
Session 7:	34	<b>Combining Local Search and Multi-objective Optimization Algorithm in Signalized</b> <b>Intersection Optimization</b> Phuong Thi Mai Nguyen and Luong Huy Vu			
Mathematical Foundations in Informatics	116	Comparative Evaluation of PRR and PODA Methods for Model Order Reduction in Electrical Circuits Thanh-Tung Nguyen, Huy-Du Dao, Ngoc-Kien Vu			
Room C2.204 16h00-17h30	30	<b>Data-driven narratives: Unleashing the Potential of R for Journalistic Storytelling</b> Tran Quang Quy, Nguyen Duc Binh and Pham Chien Thang			
	144	<b>Dynamic analysis of capsubot model in liquid environment by numerical method</b> Quoc-Huy Ngo, Ky-Thanh Ho and Van-Dam Vu			
18h00-20h00	ICTA 2023 BANDQUET & NETWORKING Floor 8, The King Hotel, No. 99 Bac Son St., Thai Nguyen city				
	14	DECEMBER 2023- PARALLEL SESSIONS			
Sessions	Paper ID	Paper titles & Auhors			
	138	<b>Building an Efficient Retriever System with Limited Resources</b> Quang Nhat Nguyen and Huong Thanh Le			
Session 8: Artificial Intelligence 1	155	Deep Learning based Coconut Fruit Maturity Classification Nhut Lam Nguyen, Ngoc Van Khanh Duong, and Hoang Duy Thien Nguyen			
Room C2.101 8h00-9h30	52	Enhanced prediction of mRNA subcellular localization using a novel ensemble learning and hybrid approach Thi-Tuyen Nguyen, Van-Nui Nguyen, Thi-Xuan Tran, Nguyen-Quoc-Khanh Le			
	85	Improved Approach Build Anthropological Face Feature Maps Based on Convolution Neural Network Nguyen Thu Huong, Nguyen The Long and Pham Thi Lien			

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	161	<ul> <li>Classification of Fermentation Levels of Cacao Beans (Theobroma cacao L.) Using Sensing Technology and Neural Networks</li> <li>Rikiya E. Yamamoto, Roselyn A.Maano, James Leo C.Grimaldo, Mary Meliza V.Parcon, Ronaldo C.Maaño, Jose B.Jr. Tan, Rodrigo C.Jr. Belleza, Pedro L.Jose De Castro and Duo Binh Nguyen</li> </ul>		
Session 9: Artificial Intelligence 2 Room C2.102 8h00-9h30	80	Application of Deep Learning Methods for Forest Intelligent Image Processing Nguyen The Long, Nguyen Thu Huong, Shmeleva Anna.G. and Pham Thi Lien		
	37	Enhancing Wildfire Detection Using Semi-Supervised Fuzzy Clustering on Satellite Imagery Phung The Huan, Hoang Thi Canh, Vu Duc Thai, Do Huy Khoi and Le Truong Giang		
	150	<b>Evaluating the performance of some deep learning model for the problem of emotion</b> <b>recognition based on EEG signal</b> Thuong Duong Thi Mai and Nghia Phung Trung		
	95	Design and Implementation of a Natural Respiratory Rate Monitoring System using Flex and Inertial Sensors on Medium-Power Microcontrollers To-Hieu Dao, Hoang Thi Hai Yen, Van-An Tran, Hoang-Dieu Vu and Duc-Nghia Tran		
Session 10: Electronics	143	<b>Design of 1 × 4 Microstrip Patch MIMO Antenna for 5G Applications</b> Duc-Nguyen Tran Viet, Nguyen Sy Hiep and Huy-Hung Tran		
Room C2.201 8h00-9h30	86	<b>GPRS Based health monitoring system</b> A. R. Deepa, Quang-Trung Hoang, Van-Tung Bui, Duc-Tan Tran, V. Ramaswamy, C. J. Jeba Sheela, S. Chowdhury and Duc-Nghia Tran		
	113	Model Reduction Techniques for Circuits: Positive Real Balancing and Stochastic Balancing Comparison Thanh-Tung Nguyen, Huy-Du Dao and Ngoc-Kien Vu		
	07	<b>Design and control an unmanned aerial vehicle (Quadcopter) for agricultural</b> Hoang Duc Quynh		
Session 11: Control and	160	<b>Design and simulation of PID-based control system for UAV Quadcopter</b> Cuong Van Nguyen, Minh Tuan Nguyen		
Automation Room C2.201 <i>8h00-9h30</i>	119	<b>Development of traffic congestion prediction problem using Cellular</b> <b>Neural Network technology</b> Vu Duc Thai, Ngo Huu Huy, Le Anh Tu, Sonexay PHANTHAVONG		
	131	Optimal design of hedge-algebras-based controller for active suspension systems with parameter uncertainty Hai-Le Bui, Tien-Duy Nguyen and Viet-Duc Le		
	124	FAVS: 3D Facial Animation according to Vietnamese Semantic Analysis Do Thi Chi, Le Son Thai, Nguyen Van Huan		
Session 12:	159	InstaFace: Single-view 3D Face Reconstruction with Hair Try-on Hieu Dao-Quang, Anh-Duc Lo and Chau Ma-Thi		
Multimedia Room C2.202 8h00-9h30	133	Movie prediction based on feature generation Hung Nguyen VuDuy, Nhung Vuong thi, Thanh Trinh		
	105	Skeleton-based student activities recognition from classroom videos Phuong-Dung Nguyen, Xuan-Vuong Le, Viet-Duc Le, Huu-Linh Nguyen, Ngoc-Trang Le, Tuan-Dung Kieu, Thanh-Hai Tran, Huu-Quynh Nguyen and Thi-Lan Le		



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Session 13: Digital Economics and Management Room C2.203 8h00-9h30	98	<b>BPR/ISP the Effective Way for Digital Transformation in Higher Education Institutions</b> Hoang Anh, Le Truong Giang, Hoang Minh Tuan, Trinh Thi Phuong and Phung The Huan		
	130	<b>Big data application in data management at universities in Vietnam</b> Phan Thi Van Giang, Nguyen Thu Huong and Duong Thi Hong An		
	20	Discovering User Interest in Social Media Based on Correlation Nguyen Thi Hoi and Tran Dinh Que		
	36	Earnings Management in Vietnamese Family Firms: A Comparative Analysis with Non- Family Firms Huyen Thi Thanh Phan		
Session 14:	3	Genetic Programming – A Preliminary Study of Knowledge Transfer in Mutation Pham Thi Thuong, Hoang Thi Canh, Nguyen Thi Dung, Nguyen Thu Phuong, Nguyen Lan Oanh		
Mathematical Foundations in	168	<b>Improvement of spectral clustering method in social network community detection</b> Nguyen Hien Trinh and Cap Thanh Tung		
Informatics Room C2.204 8h00-9h30	93	<b>Probable characteristics of multi-channel queuing systems with "Impatient" and</b> <b>"Patient" claims</b> Tran Quang Quy, Ngo Huu Huy and Nguyen Vu Hai		
	90	<b>Processing overlapping communities using the Gradient Descent optimization method</b> Nguyen Hien Trinh and Cap Thanh Tung		
9h30-9h45	COFFEE BREAK & NETWORKING			
Session 15: Artificial Intelligence 1 Room C2.101 9h45-11h15	88	Intrusion Detection System Using Semi-Supervised Learning with Hybrid Labeling Techniques Ren-Hung Hwang, Tzu-Hao Tsai and Jia-You Lin		
	139	<b>Monitor respiration rate and sleep positions using multi-task learning</b> Hoang-Dieu Vu, Dinh-Hieu Le, Khanh-Ly Can, Hieu Dao-To, Dinh-Dat Pham, Sy-Hiep Nguyen, Ha-My Nguyen, Duc-Nghia Tran		
	79	Predicting drug-disease associations based on integrated similarities and weighted bi-level network Van Tinh Nguyen, Huy Vu Duc, Yen Vu Minh and Lan Nguyen Thi Huong		
	169	Feature reduction for interpretability of neuro-fuzzy classifier Thanh-Tung Nguyen, Dang Thi Hien and TuanLinh Nguyen		
Session 16: Artificial Intelligence 2	96	Improved Accuracy of Path System on Creating Intelligence Base Don T Tran, Vinh Q Nguyen, Cuong V Nguyen, Dong LT Tran, Hoang T Tran, Anh N.D		
Room C2.102 9h45-11h15	102	The Vehicle Routing Problem with Drones for Fresh Agricultural Products Quang Huy Vuong, Trung-Nghia Phung, and Minh-Trien Pham		
	172	ViT-SigNet: Combining Deep CNN and Vision Transformer for Enhanced Signature Verification Ton Do Thanh1, Chi Thanh Nguyen, Nhu Hai Phung, Nguyen Hai Minh, Van-Hau Nguyen		
	32	Non-invasive Feature Selection for Intrusion Detection Systems in the Internet of Things Duc Trung Tran, Nguyen Canh Minh, Dang Hai Hoang , Nguyen Thanh Trung, Nguyen Van Khoi and Duc-Tan Tran		
Session 17: Electronics Room C2.103	147	Piggybacked based collaborative resource selection in C-V2X Malik Muhammad Saad, Muhammad Ashar Tariq, Mahnoor Ajmal, Sunghyun Kim, Dongkyun Kim		
9h45-11h15	29	Speeding up SIFT for Faster Feature-Based UAV Visual Localization Ngo Van Quan, Duong Dinh Luyen, Phan Huy Anh, Pham Thi Hoai Thu, Nguyen Chi Thanh, Vu Duc Thai		
	120	<b>The Using of Real Part Component to Enhance Performance of MVDR Beamformer</b> Quan Trong The and Ha Thi Hien		

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Session 18: Control and Automation	75	Optimizing cooling loads, taking into account compensation costs for users, temperature factors, and distributed energy sources Hong Anh Pham Thi, Mai DoThi and Thu Phuong Le Thi		
	69	Path tracking control approach and processing lumped disturbances for AGV in recent years: an overview Thi Mai Do and Hoai Nam Nguyen		
Room C2.201 9h45-11h15	70	Radial Basis Function Neural Network Based Fractional Order Sliding Mode Control For Planar Flexible-Joint Robot 2-Dof Nguyen Thi Thu Hien and Nguyen Duy Minh		
	146	Stabilizing control for an inverted eccentric pendulum system Dinh Gia Thi and Hao Nguyen Dang		
	47	Timbre and height differences in self-perceived own voices Shota Morita, Teruki Toya and Masashi Unoki		
Session 19: Multimedia Room C2.202 9h45-11h15	55	<b>TNUE-Fight Detection: A New Challenge Benchmark for Fighting Recognition</b> Duc-Quang Vu, Thu Hien Nguyen, Mai Nguyen, Bao Yen Nguyen, Trung-Nghia Phung, and Trang Phung T.Thu		
	38	<b>Using Information Technology to Identify Fruit Flies in Agriculture</b> Pham Duc Long		
	57	Voice Separation using Multi Learning on Squash-norm Embedding Matrix and Mask Ha Minh Tan, Duc-Quang Vu, Duyen Nguyen Thi, and Trang Phung T. Thu		
G . 1 . 00	134	<b>Exploring Correlations Between Personality Traits and Criminal Attitudes</b> Son Hong Nguyen and Binh Thanh Nguyen and Bao Chung Hoang and Binh Ton That and Huy Truong Dinh		
Session 20: Digital Economics and Management	24	Rapid Synergy Realisation in Post-Merger Integration through Targeted Transition Architectures Lars Malmqvist		
Room C2.203 9h45-11h15	108	Research for building virtual models online visit Hung Vuong museum Nguyen Quoc Khanh, Nguyen Van Huan and Thipphavongxay Anousit		
	31	Unveiling the Influence of Perceived Limitations: Exploring Tourist Acceptance and Usage Intentions towards Virtual Tourism in Ho Chi Minh City Tran Tuyen and Nguyen Thi Van Hanh		
Session 21: Mathematical Foundations in Informatics Room C2.204 9h45-11h15	35	Scheduling Production of High Economic Values Crops in Plant Factory Nguyen Dinh Dai, Pham Chau Long, Trung-Nghia Phung, Minh-Trien Pham, Khanh Le Nguyen and Duc-Dong Do		
	71	Sixth order numerical method for solving second order nonlinear boundary value problem Dang Quang A and Truong Ha Hai		
	50	<b>Solving the Dirichlet problem for fully sixth order nonlinear differential equation</b> Nguyen Thanh Huong and Vu Vinh Quang		
	100	The Minmax Regret Longest Path of a Tree with Interval Edge Lengths Tran Quang Quy, Nguyen Ha Cong Ly, Do Dinh Cuong and Huy Minh Le		

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## **CONTACT INFORMATION OF TECHNICAL SUPPORTERS**

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AIST APAN ADVANCED INSTITU SCIENCE AND TECH

No	Venue	Sessions	Technical supporters
1	Multi Purpose Hall	Plenary Session & Keynote Speeches	Person-in-charge: Tran Duy Minh Email: <u>tdminh@ictu.edu.vn</u> Mobile: 0374.473.888
2	Room C2.101	Session: Artificial Intelligence 1	Person-in-charge: Nguyen An Khanh Email: <u>nakhanh@ictu.edu.vn</u> Mobile: 0989.166.111
3	Room C2.102	Session: Artificial Intelligence 2	Person-in-charge: Nguyen An Khanh Email: <u>nakhanh@ictu.edu.vn</u> Mobile: 0989.166.111
4	Room C2.103	Session: Electronics	Person-in-charge: Nguyen An Khanh Email: <u>nakhanh@ictu.edu.vn</u> Mobile: 0989.166.111
5	Room C2.201	Session: Control and Automation	Person-in-charge: Trinh Van Giac Email: <u>tvgiac@ictu.edu.vn</u> Mobile: 0984.096.114
6	Room C2.202	Session: Multimedia	Person-in-charge: Trinh Van Giac Email: <u>tvgiac@ictu.edu.vn</u> Mobile: 0984.096.114
7	Room C2.203	Session: Digital Economics and Management	Person-in-charge: Tran Ngoc An Email: <u>tnan@ictu.edu.vn</u> Mobile: 0965.957.333
8	Room C2.204	Session: Mathematical Foundations in Informatics	Person-in-charge: Tran Ngoc An Email: <u>tnan@ictu.edu.vn</u> Mobile: 0965.957.333

## **NOTES FOR PRESENTERS**

- One presentation's maximum time length is 20 minutes, including Q&A.
- Presenters should be in the session room at least 10 minutes in advance. Please contact ICTA 2023
   Organizers at <u>ictacontact@ictu.edu.vn</u> or call hotline 0904.101.008 (Assoc. Prof. Dr. Huan)/ 0963.810.122 (Ms. An) if you need any assistance.
- Only listed authors can present their papers. Any presenters not on the list of authors cannot present in any circumstances. The session chair may request the author's identification if necessary.
- Slides for presentation should be submitted to the technical supporters in each session **before 6**<sup>th</sup> **December 2023.**