



Cape Panwa, 19 - 22 June 2024

The 21<sup>st</sup> International Joint Conference on Computer Science and Software Engineering



Contact us: jcsse2024@phuket.psu.ac.th  
Website: jcsse2024.computing.psu.ac.th

The 21<sup>st</sup> International Joint Conference on Computer Science and Software Engineering (JCSSE 2024) is co-organized by IEEE Thailand Section (IEEE Computer Society Thailand Chapter) and College of Computing, Prince of Songkla University. Accepted papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements.



# JCSSE 2024 PROGRAM

## The 21<sup>st</sup> International Joint Conference on Computer Science and Software Engineering Cape Panwa, 19 - 22 June 2024

19 JUNE 2024

	Room 1	Room 2	Room 3			
8.00 - 9.00	Registration					
9.00 - 10.20	<b>Image Processing 1</b> Session Chair: Prof. Dr.Kosin Chamnongthai		<b>Machine Learning 1</b> Session Chair: Assoc.Prof. Dr.Ekkarat Boonchieng			
	1570993885	Cascaded Architecture for Segmenting Prostate Cancer Lesions in Biparametric MRI	1570982078	Hybrid Machine Learning Approach for Microclimate Prediction in Equipment-Operated Open Ventilated Greenhouse		
	1570994827	ASDR: Automatic System to Diagnose and Recognize Electrical Drawings	1570994593	Prediction of Daily Outpatient Volume Using Ensemble Empirical Mode Decomposition and Long-Short Term Memory, During the Incident		
	1571010888	Screening of Defects in AI Generated Portraits	1570995155	Detection of a Real Thai National ID Card in Video Based		
	1571013790	Adaptive Body Part ROI With Triple Stream Approach for Human Action Recognition	1570997841	Generative AI: How Well Can It Understand Conversational UX?		
10.20 - 10.35	Coffee Break					
10.35 - 11.55	<b>Image Processing 2</b> Session Chair: Prof. Dr.Kosin Chamnongthai		<b>Machine Learning 2</b> Session Chair: Assoc.Prof. Dr.Ekkarat Boonchieng	<b>Computer Educational</b> Session Chair: Dr.Kla Tantithamthavorn		
	1571013916	Multiple Face Detection and Recognition for System-On-Chip FPGAs	1571009343	Non-Invasive Automatic Drowsiness Detection Using Independently Recurrent Neural Network	1571014443	The Impact of Moodle LMS Integration on Group Discussions to Support Collaborative Learning
	1571014065	Extracting Information From Drug Label Using Image and Text Processing	1571008676	Diesel Price Prediction Models With Traditional Time-Series Algorithms and Neural Networks	1571016964	Towards 3D Serious Game Simulation for Military Training
	1571014114	Comparative Analysis of Pretrained Deep Neural Networks for Plant Disease Classification	1571011737	Policy GRU-RL: Simplified Music Playlist Recommendation Using Sequential on Reinforcement Learning Concept	1571017026	Enhancing Educational Strategy Through K-Means Clustering: A Study on Academic Departments
	1571009357	Framework on Image-Based Implicit Tourism Recommendation Using Transfer Learning Feature Extraction	1571012301	Electromyography-Based Hand Pose Estimation Using Machine Learning		
12.00 - 13.00	Lunch					
13.30 - 16.25	<b>Opening Ceremony</b> <b>Keynote Speaker #1:</b> Prof. Dr.Jungpil Hahn <b>Title:</b> AI and Its Transformative Impact: Implications for Computer Science and Software Engineering <b>Keynote Speaker #2:</b> Dr.Patanamon Thongtanunam <b>Title:</b> Uncovering Hidden Challenges: Designing Data-Driven Solutions for Real-World Software Engineering Session Chair: Asst.Prof. Dr.Nattapong Tongtep					
	<b>Welcome Dinner at Café Andaman</b>					
18.30 - 21.00						

20 JUNE 2024

	Room 1	Room 2	Room 3			
9.00 - 10.20	<b>Image Processing 3</b> Session Chair: Dr.Kittasil Silanon		<b>Machine Learning 3</b> Session Chair: Assoc.Prof. Dr.Krisana Chinnasarn	<b>Invited Speakers (Abstract Papers)</b> Session Chair: Prof. Dr.Yung-Nien Sun		
	1571014354	Applying the ABC Approach for Edge Detection in Unshelled Banana Prawn Images	1571012306	Unveiling Emotions and Themes in Thai Songs via Topic Modeling	1000000001	Revolutionizing Stroke Rehabilitation: Objective Assessment of Upper Limb Movement using OpenPose and Machine Learning
	1571014377	Enhancing Data Collection for Market Basket Analysis Through CNN Object Detection	1571012311	Utilizing Explainable Artificial Intelligence (XAI) to Identify Determinants of Coffee Quality	1000000002	Integrating Advanced AI in Maritime Telemedicine: A Large Language Model Approach
	1571014496	Waterline Detection and Water Level Estimation Based on HED Edge Detection	1571012843	Egg Shape as a Generalized Radial Basis Shape for Discard-After-Learn Method in Streaming Data	1000000003	Mature Estimation Model of School-Age Children Based on Handwriting Kinetics Data
	1571014501	Effectiveness of Classifying Unsafe Children's Toys Using NLP, Deep Learning and Ensemble Learning	1571014033	Leak Signal Collection and Classification in Water Pipelines Using Resource-Constrained Devices		
10.20 - 10.35	Coffee Break					
10.35 - 11.55	<b>Image Processing 4</b> Session Chair: Dr.Maneerate Puongmanee		<b>Machine Learning 4</b> Session Chair: Assoc.Prof. Dr.Krisana Chinnasarn	<b>Invited Speakers (Abstract Papers)</b> Session Chair: Prof. Dr.Yung-Nien Sun		
	1571014664	3D Mapping of Quadcopters Using Stereo Cameras for Indoor Environment	1571014242	End-To-End Data Characteristics Monitoring for MLOps	1000000004	Multimodal Generative AI Model for Diabetes Mellitus Classification
	1571015392	uitPEcloFL: A Study on PE Malware Classification Using Federated Learning	1571014270	Prediction Chronic Kidney Disease Progression in Diabetic Patients Using Machine Learning Models	1000000005	Key Indicative Features of Lower Limb Fatigue from sEMG Signals Using Machine Learning
	1571015500	A Study of Noise Reduction Algorithm Using Statistical Optimization in Digital Holographic Microscopy	1571014296	Unlocking the Aroma Profiles of Coffee Roasting Levels With an Electronic Nose Coupled With Machine Learning	1000000006	Anomaly Soft Tissue Detection through Ultrasound with Variational Autoencoder
	1571015648	Water Supply Forecasting Model in the Chi River From Satellite Images	1571014308	Loan Applicant Anomaly Detection		
12.00 - 13.00	Lunch					
13.00 - 14.00	<b>Poster Session</b>					
	1571009470	Synthesizing Frontal Electroencephalogram by Conditional Generative Adversarial Networks: A Preliminary Investigation				
	1571014265	Multiple View Classification and Detection of Scaphoid Fractures Using Deep Learning				
	1571014322	Quantification Method for Gait Symmetry in the Elderly Using Cross-Correlation on an IMU				

	Room 1		Room 2		Room 3		
20 JUNE 2024	Image Processing 5 Session Chair: Asst.Prof. Dr.Nawanol Theera-Ampornpunt		Machine Learning 5 Session Chair: Dr.Maneenate Puongmanee		Computer Science Cooperative Research Network (CSCRN) Meeting		
	1571015726	N Observation Photon Counting Imaging With Preprocessing	1571017028	Estimating Group Fairness Using Pairwise Similarity			
	1571015742	Identifying Common Unsafe Gestures of Grabbing Wheel and Distracting Phone Talk by Appropriate Network	1571017036	Enhancing Hate Speech Classification in Myanmar Language Through Lexicon-Based Filtering			
	1571015911	A Machine Learning Algorithms for Drug Identification: Enhancing Medication Safety in Thailand	1571017092	Fault Diagnosis of Rolling Element Bearing From Vibration Signal Using One Dimensional Convolutional Neural Networks			
	1571016152	Early Detection of Alzheimer's Disease: A Deep Learning Approach for Accurate Diagnosis	1571017103	Analyzing Machine Learning Techniques for Air Passenger Numbers Forecasting			
	14.50 - 15.05						Coffee Break
	Image Processing 6 Session Chair: Asst.Prof. Dr.Nawanol Theera-Ampornpunt		Cyber Security 1 Session Chair: Dr.Jakapan Suaboot		Computer Science Cooperative Research Network (CSCRN) Meeting		
	1571016278	Lightweight YOLOv5-Based Algorithm to Detect Room Nameplates for Autonomous Smart Wheelchair	1570989781	EX-DFL: An Explainable Deep Federated-Based Intrusion Detection System for Industrial IoT			
	1571013860	Comparison of Deep Learning-Based Models for Oral Disease Detection	1570991752	Behavioral Authentication Using Activity-Based Model Segregation in Convolutional Neural Networks for Mobile Sensor Data			
	1571016412	Optimizing LiDAR-Based Depth Map Accuracy Through Multiview Angle Analysis to Enhance Shape Measurement Efficiency	1570993110	Malware Classification for Mobile Application Using Permission Manifest			
1571016413	A Comparative Study of Loss Functions for Arbitrary-Oriented Object Detection in Aerial Images	1570995221	A Scalable and Secure Outsourced IoT Electronic Health Records With Efficient User Revocation Using Fog-Assisted Cloud Model				
16.25 - 16.30						Short Break	
Image Processing 7 Session Chair: Dr.Kittasil Silanon		Cyber Security 2 Session Chair: Dr.Jakapan Suaboot					
1571016791	Predicting Calamansi Fruit Yield Using CNN-Based Flower Detection: A Deep Learning Approach	1571004975	Developing Web Application Firewall Using Deep Learning HYDRA Multi-Modal Approach				
1571016744	A 3D Camera Protocol for Object Pose Estimation From Point Cloud in Robot Operations	1571014079	Design and Development of Scalable SIEM as a Service Using Spark and Anomaly Detection				
1571017021	YOLO for Small Objects in Aerial Imagery: A Performance Evaluation	1571014407	A Design and Development of Web Application Vulnerability Detection System Using Graph-Based Modeling Analysis Over CAPEC				
1571017022	Factors Influencing the Behavioral Intention of Elderly Toward Self-Ordering Kiosks	1571016981	Automating Hidden Gambling Detection in Web Sites: A BeautifulSoup Implementation				
18.30 - 21.00						Banquet at Panwa House	
21 JUNE 2024	Software Engineering 1 Session Chair: Asst.Prof. Dr.Adisak Intana		Data Science 1 Session Chair: Asst.Prof. Dr.Noppon Lertchuwongsa		Health Informatics 1 Session Chair: Asst.Prof. Dr.Jirawat Thaenthong		
	1570993134	Development of the Topic Tagging System for Thai and English-Translated Web Contents	1570993480	The Use of Clinical Language Models Pretrained on Institutional EHR Data for Downstream Tasks	1571001633	Measuring Patient Similarities in Clinical Data Repository Through Graph Representation	
	1570995321	Shared Control-Based AI-Empowered Framework for Real-Time Synthesis of Metaverse Avatars	1571013823	Investigating the Influence of Psychologists' Recommendations on Thai Juvenile Court Judgements	1571004546	PSD-CNN Approach for Subject Independent Dementia Recognition From EEG Signals	
	1571013886	Typhon: Automatic Recommendation of Relevant Code Cells in Jupyter Notebooks	1571013971	Enhancing Auto Insurance Fraud Detection Using Convolutional Neural Networks	1571011214	Lateraling Seizure Onset Zone Through Interictal Sleep Scalp EEG High-Frequency Oscillations	
	1571013894	See to Believe: Using Visualization to Motivate Updating Third-Party Dependencies	1571014343	Bit-Level Affixation Text Compression Algorithms	1571013096	Professional-Level Classification for Healthcare Articles	
	10.20 - 10.35						Coffee Break
	Software Engineering 2 Session Chair: Asst.Prof. Dr.Adisak Intana		Data Science 2 Session Chair: Asst.Prof. Dr.Noppon Lertchuwongsa		Health Informatics 2 Session Chair: Asst.Prof. Dr.Jirawat Thaenthong		
	1571014267	Developing Eternal Learning Model Trainer System to Support Continuous Knowledge Integration and Cognitive Growth	1571014371	Machine Learning Models to Investigate Startup Success in Venture Capital Using Crunchbase Dataset	1571013282	Data-Driven With Process Mining to Analyze and Identify Key Features for No-Show Risks in Patients With Chronic Diseases to Achieve Treatment Improvement	
	1571014338	Integration Model for Face Registration Checkpoint	1571014393	A Comparative Study of DenseNets for Vietnamese Traditional Music Genre Classification	1571014234	BERT Based Model for Robust Mental Health Analysis in Clinical Informatics	
	1571014357	Online Low-Cost Air Quality Monitoring System Using LoRa-Based Communication	1571014410	A Framework for Automatic Root Cause Analysis of Network Failure on MPLS Network	1571016855	Representation Learning Technique in DNA Sequence Classification for SARS-CoV-2 and Pathogenic Viruses	
1571014937	Enhancing Usability and Learner Engagement: A Heuristic Evaluation of the AI-Enhanced Video Drama Maker App	1571014430	Classification of Android Malware From Binary Code Using Ensemble Method With Recursive Feature Elimination				
12.00 - 13.00						Lunch	
Software Engineering 3 Session Chair: Dr.Apichart Vasutapituks		Data Science 3 Session Chair: Dr.Isoon Kanjanasurat		Human Computer Interaction Session Chair: Prof. Dr.Damir Vusic			
1571015661	An Investigation of Machine Learning Algorithms for Predictive Maintenance in High Pressure Processing Systems	1571014462	Enhancing Market Making Strategies With Deep Reinforcement Learning-Based Quoting Decisions	1571013597	A Research on the Usability Evaluation of Telecommunication and Navigation Applications in In-Vehicle Infotainment Systems		
1571016749	The Effects of Mixed Reality-Based Badminton Training System on the Hitting Accuracy of Badminton and Cybersickness	1571014472	Enhancing Money Laundering Detection Addressing Imbalanced Data and Leveraging Typological Features Analysis	1571012973	User-Centric Design: Adjective Rating Scale for Conversational Agent Interaction		
1571016891	Enhancing Agile Software Development: A Novel Approach to Automated Requirements Prioritization	1571016722	Mass-Ratio-Average-Absolute-Deviation Based Outlier Factor for Anomaly Scoring	1571016679	Development of Autonomous Mobile Service Robot as A Reception in Department Stores		
1570983597	Regularized Linear Fractional Programming for Implementing Digital Phase Compensators	1571000742	Quantum Benchmark Suite for IBM's Backend Based on SupermarQ	1571017073	Influence of Augmented Reality on User Experience in E-Commerce		
14.50 - 15.05						Coffee Break	
Information Retrieval & NLP Session Chair: Dr.Apichart Vasutapituks		Computer Networks & Communications Session Chair: Assoc.Prof. Dr.Sinchai Kamolphiwong		Artificial Intelligence Applications Session Chair: Dr.Phet Aimtongkham			
1570995479	Extracting Aspect-Based Economic Sentiments From Thai Social Media Text	1571012541	Graph Neural Network Performance Analysis in the Cell-Free Massive MIMO Wireless Systems	1571013496	Estimation of Major Seismic Activities in Thailand Using Fourier Transform		
1571012858	Backward Inverted Lists Approximate String Matching Algorithm	1571012543	Adapting Graph Structure for IoT Network: A Performance Analysis	1571013804	An NLP-Based Approach for Detecting Ambiguity of Thai Software Requirements Specification		
1571014282	Thai Question Text-To-SQL Parsing Using Transformer	1571015658	Maximizing the Lifetime of Wireless Sensor Networks: Integrating K-Means Clustering With LEACH Protocol to Improve Energy Efficiency	1571016946	Development of AI Chatbot for Tourism Promotion: A Case Study in Ranong and Chumphon, Thailand		
1571017027	Exploring the Impact of Error Type Features Integration on Transformer-Based Myanmar Spelling Correction	1571016893	A Flexible and Cost-Efficient Protection Scheme for SDN-Based 5G Backhaul Network	1571016947	Named Entity Recognition for Thai Historical Data		
1571014276	Automated Face Selection and Censoring on Image and Video Using Artificial Intelligent	1571016934	Signal Strength and Energy Consumption on Various Internet of Things Communication Protocol Using Heltec ESP32 LoRa	1570999687	M-Stock: Automate Photo Assessment for Enhancing Student Photography Skills With Deep Learning		
22 JUNE 2024	9.00 - 16.30						Excursion with local tours (Optional)*

\*The package tour is not included in the registration fee.