



# **28th ACIS International Winter Virtual Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD2024-Winter)**



**4-6 December, 2024**

**National Chin-Yi University of Technology, Taichung  
Taiwan**

**<https://acisinternational.org/conferences/snpd2024-winter/>**

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**Program at a Glance**

**Thursday, December 5, 2024**

<b>Time(GMT+8)</b>	<b>Session</b>	<b>Location</b>
09:00AM - 10:30AM	Regular Session 1	Virtual
10:30AM - 12:00PM	Regular Session 2	
12:00PM - 01:00PM	Break	
01:00PM - 02:30PM	Regular Session 3	
02:30PM - 04:00PM	Workshop	

**Friday, December 6, 2024**

<b>Time (GMT+8)</b>	<b>Session</b>	<b>Location</b>
09:00AM - 10:30AM	Special Session (1-1)	Virtual
10:30AM - 12:00PM	Special Session (1-2)	

## Program Schedule

**Thursday, December 5, 2024**

**09:00AM - 10:30AM(GMT+8) – Regular Session 1**

**Chair: Prof. Chu-En Lin(National Chin-Yi University of Technology)**

**Google Meet: <https://meet.google.com/juq-yavt-gbx>**

Multimedia-Based Testbot for Detecting Malware-Hiding Behaviors  
*Zhiyong Shan and Sathyanarayanan Vimalan*

Advances and Evaluation of Intelligent Techniques in Short-Term Load Forecasting  
*Jamshaid Iqbal Janjua*

A Sentiment and Emotion Analytics Framework for Social Media News  
*Fu-Shing Sun and Miao Guo*

A prototype of digital student ID system based on verifiable credentials  
*Takashi Yamaguchi, Ryo Itokawa and Eisuke Ito*

A certification process for testing software components for security properties  
*Yongpil Geum*

From Java to Flutter: Evaluating Modern Frameworks in Mobile App Development with Semantic Editor  
*Balachandran Nair Sumadevi Sarada*

**10:30AM - 12:00PM(GMT+8) – Regular Session 2**

**Chair: Prof. Meng-Hua Yen(National Chin-Yi University of Technology)**

**Google Meet: <https://meet.google.com/zvc-vnrq-std>**

Application of Partial Least Squares Regression Method to Estimate Analysis of Overcut Phenomenon in Wire Cutting  
*Shao Hsien Chen and Chien-Wei Lu*

Post-Surgery Wrist Fracture Patients Handling a Virtual Object in an Augmented Reality Environment  
*Chun Wei Yew, Mei-Hsuan Wu, Pei-Syuan Wu and Kai Way Li*

Research and Implementation of Key Technologies for Anti-Fraud in Medical Insurance Based on Big Data  
*Yi Wang and Wenqian Shang*

Gain Ratio for Intrusion Detection Systems in Network Security  
*Ayomide Oyemaja and Zheni Utic*

FPGA Implementation of Low-Latency Cipher LTLBC and its Security Evaluation  
*Yusuke Nozaki, Shu Takemoto and Masaya Yoshikawa*

**12:00PM - 13:00PM(GMT+8) –Break**

**01:00PM - 02:30PM(GMT+8) – Regular Session 3**

**Chair: Prof. Hsiung-Cheng Lin(National Chin-Yi University of Technology)**

**Google Meet: <https://meet.google.com/vux-fdto-gmx>**

Prediction of Next Global Pandemic Through Non-Commutative Algebra

*Huber Nieto-Chaupis*

Machine Learning for Solving Quantum Box Without Explicit Quantum Mechanics

*Huber Nieto-Chaupis*

Quantum Mechanics Without Quantum Formalism Through Machine Learning

*Huber Nieto-Chaupis*

Perceptron Replaces Friis Equation to Calculate Received Power

*Huber Nieto-Chaupis*

Enhancing the Cloud Security over Topic Modelling

*Sabbir M. Saleh, Nazim Madhavji and John Steinbacher*

**02:30PM - 04:00PM(GMT+8) – Workshop**

**Chair: Prof. Sheng-Wei Huang(National Chin-Yi University of Technology)**

**Google Meet: <https://meet.google.com/itm-hqvp-cav>**

On Accuracy of ML-based Functional Size Approximation Models on Effort Estimation

*Kaoru Yokogawa, Sousuke Amasaki, Hirohisa Aman and Tomoyuki Yokogawa*

Optimizing Transformer Based Inference Efficiency using CMM-D

*Shubham Subhash*

Scaling Transformer Inference Through CPU and Memory Optimization

*Shubham Subhash*

Game AI with Human-like Decision Making Using Reinforcement Learning in First-person Shooter Games

*Kazuki Futatsuike*

Exploring the Interpretability of Deep Learning Based Material Property Prediction Methods

*Zahra Jahedibashiz, William Richards, Xin Zhang, James Quinlan, Yuqi Song*

**Friday, December 6, 2024**

**09:00AM - 10:30AM(GMT+8) – Special Session (1-1)**

**Chair: Prof. Chi-Chun Chen(National Chin-Yi University of Technology)**

**Google Meet: <https://meet.google.com/eyu-aogq-hzf>**

Effects of Thermal Treatment to the Sensitivity of the Polycrystalline Silicon Nanowire Field Effect Transistor Biosensors

*Chi-Chang Wu, Shih-Jhao Li, Yuan-Nan Tsai, Yi-Chun Huang, Yi-Ching Cheng, Yu-Fan Chang*

Development of an Automated LiDAR-Based Eight-Arm Maze for Cognitive Memory Assessment in Traumatic Brain Injury Rats

*Yu-Rui Hung Shu Cing Wu Lung-Chih Kuo Chi-Chun Chen*

Fatigue Driving Monitoring System Based on Multi-source Information Feature Fusion

*Li-Yun Chi, Yan-Yao Lan, Liang-Hung Wang, Chun Kuo*

Design of Dynamic Synchronized Random Keys Utilizing Chaotic Extremum Coding

*C. H. Lin, G. H. Hu, C. W. Ho, H. L. Mu and J. J. Yan*

**10:30AM - 12:00PM(GMT+8) – Special Session (1-2)**

**Chair: Prof. Chin-Yi Cheng(National Yunlin University of Science and Technology)**

**Google Meet: <https://meet.google.com/oqw-tuot-rrc>**

Improved Mahalanobis-Taguchi System versus Convolutional Neural Networks for Acoustic Signal Recognition: A Case Study on Car Window Motor Sound Monitoring

*Chin-Yi Cheng, Chen-En Shi and Ilham Saputra*

The Influences of Seed Layer Thickness on The Properties of ZnO Nanowire for The Piezoelectric Sensor

*Ming-Cheng Kao, Kai-Huang Chen, Jun-Hong Weng, Chih-Hung Chiang and Tsung-Kuei Kang*

Improving Power Disaster Prevention Efficiency Through Smart Sensors and Automated Monitoring Systems

*Hsuan-Chao Huang, Jheng Hua Huang and Pei-Yu Wang*

Automatic Parking Spot and Route Location Using Google Maps and Fuzzy Logic

*Po-Sheng Chen and Shih-Yen Huang*

A Study on Data Encryption and Decryption Framework for Real-Time Audiovisual Transmission in Drones

*Hang Hong Kuo and Pin Hao Chiu*