<table>
<thead>
<tr>
<th>Session 1</th>
</tr>
</thead>
</table>
| 001-N009 | Performance-based Software Architecture Design and Blockchain as a Service for Peruvian E-government  
*Félix M. Santos López, Jhon M. Portella Delgado, Eulogio G. Santos De la Cruz, Edgar L. Cáceres* | 1  
| 002-N010 | Modelling Dynamics in Aspect-Oriented Programs  
*Hayden Cheers, Yuqing Lin* | 6  
| 003-N021 | The Impact of Feature Selection Techniques on Software Defect Identification Models  
*Huiquan Gong, Yuwei Zhang* | 12  
| 004-N030 | Architectural Approaches for Emerging Technologies-based Mobile Apps—a Systematic Mapping Study  
*Alvaro Fernández Del Carpio, Yasiel Pérez Vera* | 16  
| 005-N036 | A Directed Percolation Routing Algorithm Based on Self-Organization for LEO Satellite  
*Rongzhen Li, Jiali Bian* | 24  
| 006-N057 | A Configurable Framework for Satellite Software  
*Frank Flederer, Sergio Montenegro* | 28  
| 007-M055 | EBFT: A Hierarchical and Group-Based Byzantine Fault Tolerant Consensus Algorithm  
*Wenzheng Li, Mingsheng He* | 32  
| 008-M004 | An Image Encryption Algorithm Based on Four Dimensional Hyperchaotic System  
*Yantong Xiao, Xiaojun Tong* | 38  
| 009-M015 | Research on Modeling and Simulation of CPPS and Its Cascading Failure Mechanism  
*Ziheng Zhao, Tianyang Zhou, Qingxian Wang, Wenlong Gao, Ziqiao Zhou* | 42  
| 010-M035 | Analysis and Modeling of UAV Swarm Operation Process in Uncertain Environment  
*Li Ma, Hao Chen, Weidong Bao, Ji Wang, Xiaomin Zhu, Wen Zhou* | 48  
| Session 2 |  
| 011-M045 | Performance Prediction Model Based on Multi-Layer Attention Mechanism for Programming Ability  
*Chao Li, Zhaojing Zhang, Changhai Zhao* | 54  
| 012-N004 | A Block Image Encryption Algorithm Based on 2D Chaotic System  
*Sen Yang, Xiaojun Tong* | 61  
| 013-M060 | A Secure Access Scheme for Internet of Things Devices Based on Blockchain  
*Wenzheng Li, Ji Yue Ying* | 65  
| 014-M005 | Image Encryption Algorithm Based on Fractional Order Chaotic System  
*Jingjin Wei, Miao Zhang, Xiaojun Tong* | 72  
| 015-M031 | Quality Assurance for Microservice Architectures  
*Thomas Schirgi, Eugen Brenner* | 76  

<table>
<thead>
<tr>
<th>Table of Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
</tr>
</tbody>
</table>
| 001-N009 | Performance-based Software Architecture Design and Blockchain as a Service for Peruvian E-government  
*Félix M. Santos López, Jhon M. Portella Delgado, Eulogio G. Santos De la Cruz, Edgar L. Cáceres* | 1  
| 002-N010 | Modelling Dynamics in Aspect-Oriented Programs  
*Hayden Cheers, Yuqing Lin* | 6  
| 003-N021 | The Impact of Feature Selection Techniques on Software Defect Identification Models  
*Huiquan Gong, Yuwei Zhang* | 12  
| 004-N030 | Architectural Approaches for Emerging Technologies-based Mobile Apps—a Systematic Mapping Study  
*Alvaro Fernández Del Carpio, Yasiel Pérez Vera* | 16  
| 005-N036 | A Directed Percolation Routing Algorithm Based on Self-Organization for LEO Satellite  
*Rongzhen Li, Jiali Bian* | 24  
| 006-N057 | A Configurable Framework for Satellite Software  
*Frank Flederer, Sergio Montenegro* | 28  
| 007-M055 | EBFT: A Hierarchical and Group-Based Byzantine Fault Tolerant Consensus Algorithm  
*Wenzheng Li, Mingsheng He* | 32  
| 008-M004 | An Image Encryption Algorithm Based on Four Dimensional Hyperchaotic System  
*Yantong Xiao, Xiaojun Tong* | 38  
| 009-M015 | Research on Modeling and Simulation of CPPS and Its Cascading Failure Mechanism  
*Ziheng Zhao, Tianyang Zhou, Qingxian Wang, Wenlong Gao, Ziqiao Zhou* | 42  
| 010-M035 | Analysis and Modeling of UAV Swarm Operation Process in Uncertain Environment  
*Li Ma, Hao Chen, Weidong Bao, Ji Wang, Xiaomin Zhu, Wen Zhou* | 48  
| Session 2 |  
| 011-M045 | Performance Prediction Model Based on Multi-Layer Attention Mechanism for Programming Ability  
*Chao Li, Zhaojing Zhang, Changhai Zhao* | 54  
| 012-N004 | A Block Image Encryption Algorithm Based on 2D Chaotic System  
*Sen Yang, Xiaojun Tong* | 61  
| 013-M060 | A Secure Access Scheme for Internet of Things Devices Based on Blockchain  
*Wenzheng Li, Ji Yue Ying* | 65  
| 014-M005 | Image Encryption Algorithm Based on Fractional Order Chaotic System  
*Jingjin Wei, Miao Zhang, Xiaojun Tong* | 72  
| 015-M031 | Quality Assurance for Microservice Architectures  
*Thomas Schirgi, Eugen Brenner* | 76  

- [Table of Contents](#)
A Research on Data Rate and Computation Offloading in Joint Optimization for Fog Computing

Wenle Bai, Ziyang Ma

Research on Entity Recognition Based on Multi-criteria Fusion Model

Yin Qiyu

Automatic Deployment Method of USV Software Based on Functional Domain

Cai Qing, Zhu Lei, Li Feng

Design of ABOM Reconfiguration System Based on Digital Twin

Jianming Zou, Xiaojun Liu, Siqiu Xu

Research on Chinese Event Extraction Method Based on RoBERTa-WWM-CRF

Zhenghan Li, Nanchang Cheng, Wenchao Song

Session 3

Design and Application of a Practical Decision-Making and Commanding Platform for Emergency Rescue

Xiaohui Huang, Jixing Yang, Wenbo Jin, Yudong Fang, Li Cu

Research and Application of Rapid 3D Modeling Technology based on UAV

Xiaohui Huang, Jixing Yang, Xiaotong Liu, Zhi Zhang, Li Cui

A Non-Intrusive Load Monitoring Method Based on Multi-scale Wavelet Packet Optimization and Transient Feature Matching

Zhang Lu, Shi Shaowei

Definition of Process Realization Pattern and Automatic Generation Method of Recognition Rules

Zhenshan Gao, Chunlan Jiao, Jianbin Liu, Hao Zhang

Visual Loop Closure Detection Based on Lightweight Convolutional Neural Network and Product Quantization

Liang Huang, Maojing Zhu, Mingming Zhang

Forecasting Time-aware Nonfunctional Service Attributes Using Deep Learning

Junfu Liu, Qianqian Zhang

Deep Reinforcement Learning for Joint Offloading and Resource Allocation in Fog Computing

Wenle Bai, Cheng Qian

Application of Naive Bayesian Classifier Based on Gaussian Distribution in Plant Recognition

Liqiang Zhu

Research on The Word Segmentation Model Construction Based on CNN+BiLSTM+HMM

Xuemei Sun, Bin Wen, Rong Fu

Named Entity Recognition Method for Educational Emergency Field Based on BERT

Kangwei Wei, Bin Wen

Session 4

End-to-End Chained Pedestrian Multi-Object Tracking Based on Multi-Feature Fusion

Haiyun Zhou, Xuezhi Xiang, Xinyao Wang, Wenkai Ren

CNN-DBN: Quality Assessment and Optimization of Content-Based Image Retrieval Services

Tianhao Yuan, Pengcheng Zhang, Huiying Jin, Xuewu Zhou, Shengdong Du
A Few-shot Learning Method Based on Bidirectional Encoder Representation from Transformers for Relation Extraction  
Yifei Gao, Rongzhi Qi, Shuiyan Li

Research on System Architecture Based on Natural Disaster Monitoring and Early Warning Service  
Wen Wang, Zhi Zhang, Tao Wang, Yan Zhang, Wenhao Xu

Improving Long-tail Relation Extraction with Knowledge-aware Hierarchical Attention  
Xiaohan Zhao, Rongzhi Qi

Cyber-Physical System Intrusion Detection Model Based on Software-Defined Network  
Yunting Xiao, Jingyong Liu, Lichen Zhang

Research on Cyber-Physical Systems Based on Software Definition  
Chen Zhang, Boyi Wei, Lichen Zhang

Task Scheduling Algorithm of Cyber-Physical System Base on Complex Industry and Big Data  
Jiji Rong, Tao Zhang, Lichen Zhang

Spatiotemporal Modeling Method of Cyber-physical System Based on Object-oriented  
Liangliang Deng, Yixun Jiang, Lichen Zhang

Design and Modeling of Intelligent Home Security Monitoring System Based on CPS  
Chen Sun, Lichen Zhang

Practice of ERP Cloud Development and Evolution  
Longye Tang, Wenjie Xu

A Systematic Mapping Study on Issues and Importance of Documentation in Agile  
Basit Habib, Rohaida Romli

A Survey on QoS-based Service Composition in Cloud System Environment  
Jesus Ekie, Bassirou Gueye, Ibrahima Niangy, Tresor Ekie

Software-Defined Modeling Method of Cyber-Physical System Driven by Big Data  
Tianhe Cheng, Zhenjuan Liu, Lichen Zhang

Research on Path Selection Based on Moving Trajectory Big Data  
Zhang Miao, Yu Wanjun

Research and Application of Intelligent Route Planning Method based on 3D Model  
Xiaohui Huang, Jixing Yang, Xiaotong Liu, Yi Wang, Zeyu Jia

Improve the Performance of LSM-Tree Based Key-Value via Multiple Immutable MemTables  
Yuan Gao, Ping Xie, Wendi Hua, Meng Lv, Peixuan Li

Simulation of Exit Choice Behaviour in Evacuation Considering the Obstacles and Pedestrian Distribution  
Mengting Liu, Yafei Wang, Wei Zhu, Mengmeng Yin, Jianchun Zheng

Research on Chinese Minority Clothing Based on Deep Convolution Neural Network  
Ying Zhang, Wenfeng Zhong, Xuefei Li

The Intelligent Redesign of Traditional Chinese Wooden Toys from Embodied Cognition  
Jiuqiang Fu, Jue Chen
Session 6

051-N058 Recognition of Real-life Activities with Smartphone Sensors using Deep Learning Approaches
Sakorn Mekruksavanich, Anuchit Jitpattanakul

052-N062 Flooding Forecasting System Based on Water Monitoring with IoT Technology
Sakorn Mekruksavanich, Kiattikul Sooksomsatarn, Anuchit Jitpattanakul

053-N017 Developer's Perspectives on Unit Test Cases Understandability
Novi Setiani, Ridi Ferdiana, Rudy Hartanto

054-N070 A Study on Lightweight And Secure Edge Computing Based Blockchain
Wenzheng Li, Mingsheng He, Wei Zhu, Jianchun Zheng

055-M002 Research on Data Preprocessing Method of Mongolian Medicine Prescriptions for Treating Heat Syndrome
Tuya, Chunsheng Zhang, Jingang

056-M008 Ergonomics Analysis of Bus Seat Based on Jack
Heyu Nie, Mingmao Hu, Fengting Yin

057-M029 Design of Intelligent Atmosphere Lamp Based on Chinese Traditional Wooden Structure
Zhao Liu, Jiuqiang Fu

058-M052 Stability Evaluation of Tunnel Surrounding Rock Based on Data Mining
Junyi Tang, Wanjun Yu

059-N056 Application of Improved NSGA-II Algorithm in Ship Entry and Exit Dispatching
Guowei Liu, Hongxiang Ren, Fuquan Xu, Yi Zhou

060-N059 Metamorphosis Relationship Generation Based on Fixed Memory Step Gradient Descent Method with Noise
Longchi Zeng, Zan Yang, Shan Liao, Cancan Yang, Wei Nai, Dan Li

Session 7

061-N060 An adaptive DNN Partition Algorithm Greedy Algorithm (ADPA)
Zhang Lei

062-N063 T-Distributed Stochastic Neighbor Embedding Based on Cockroach Swarm Optimization with Student Distribution Parameters
Mengdie Qiu, Zan Yang, Wei Nai, Dan Li, Yidan Xing, Kai Li

063-N065 Analysis and Research on Fire Safety of University Dormitory Based on Bayesian Network
Zhang Min, Yu Wanjun

064-N029 Research on Software Life Cycle Model Suitable for Aerospace System Engineering
Chuyang Dong, Haihong Fang, Hongjie Zhang, Yuexi Wang, Xianqing Ling