

# Table of Contents

## Session 1

001-S076	Real-Time Network Intrusion Detection System Based on Deep Learning <i>Yuansheng Dong, Rong Wang, Juan He</i>	1
002-S010	A Novel Approach for Detecting Logic Similarity in Plagiarised Source Code <i>Hayden Cheers, Yuqing Lin, Shamus P. Smith</i>	5
003-S069	A Reference Architecture for Applications with Conversational Components <i>Saurabh Srivastava, T.V. Prabhakar</i>	11
004-S045	DeepDroid: Feature Selection approach to detect Android malware using Deep Learning <i>Arvind Mahindru, A L Sangal</i>	16
005-S050	Essboard: a collaborative tool for using Essence in software development <i>Diana Quintanilla-Perez, Arthur Mauricio-Delgadillo, David Mauricio-Sanchez</i>	20
006-S030	An Improved Pointwise Convolutional Block for Efficient Model Compression <i>Yingjie Jia, Weiwei Miao, Chengling Jiang, Wen Ye</i>	24
007-S048	Application of Deep Reinforcement Learning on Automated Stock Trading <i>Lin Chen, Qiang Gao</i>	29
008-S025	Container-Based Complex Programming Skills Training Platform <i>Wei Wang, Tao Wang, Gang Yin</i>	34
009-S019	The Implementation of LeNet-5 with NVDLA on RISC-V SoC <i>Shanggong Feng, Junning Wu, Shengang Zhou, Renwei Li</i>	39
010-S061	An Efficient End-to-End Channel Level Pruning Method for Deep Neural Networks Compression <i>Lei Zeng, Shi Chen, Sen Zeng</i>	43

## Session 2

011-S074	Classifier Selection Method Based on Multiple Diversity Measures <i>KeFei Cheng, ZhiWen Song, YaNan Yue, FengChi Shan, XiaoYong Guo</i>	47
012-S068	AAG: A Model for Attack Behavior Judgment in CTF-style Cyber Security Training <i>Zimian Liu, Han Qiu, Junhu Zhu, Ziyi Zeng</i>	54
013-S065	Software Engineering for Dataset Augmentation using Generative Adversarial Networks <i>Benjamin Jahić, Nicolas Guelfi, Benoît Ries</i>	59
014-W028	Remote Sensing Image Aircraft Detection Based on Feature Fusion across Deep Learning Framework <i>Wanjun Wei, Jiuwen Zhang, Chengyu Xu</i>	67
015-S055	A Static Call Graph Construction Method Based on Simulation Execution <i>Fan Zhang, Naijie Gu, Junjie Su</i>	72
016-S096	Using Format Migration and Preservation Metadata to Support Digital Preservation of Scientific Data <i>JiaJun Xie, Min Zhang, YongQi Ma</i>	77

017-S117	The Construction and Measure Method of Dependency Parsing Tree Model <i>Gang Liu, Kai Wang, Wangyang Liu, Yang Cao</i>	83
018-S125	An Improved Interval-Valued Campbell-Bennett OCC Model Based on PSO <i>Mao Yang, Yi Yang, Lian Li, Durong Yin, Zhigang Yang</i>	87
019-S084	Task-oriented Dialogue System Based on Reinforcement Learning <i>Meina Song, Zhongfu Chen, Peiqing Niu, Haihong E</i>	93
020-S034	The Messaging Protocols Analysis of Integrating Blockchain and Edge Computing for IoT <i>He Bai, Yue Jiang, Hui Yang, Geming Xia</i>	99
Session 3		
021-W048	Incorporating Temporal Information for Recommendation in Heterogeneous Information Network <i>Yanxiang Ling, Zheng Liang, Wenjing Yang</i>	103
022-S121	MaCA: a Multi-agent Reinforcement Learning Platform for Collective Intelligence <i>Fang Gao, Si Chen, Mingqiang Li, Bincheng Huang</i>	108
023-S108	Semantic Segmentation of Intracranial Hemorrhages in Head CT Scans <i>Yuhang Qiu, ChiaShuo Chang, JiunLin Yan, Li Ko, TianSheuan Chang</i>	112
024-S091	Modeling Language Design and Mapping Rules for REST Interface <i>Guo Jiadi, Wang Zhili</i>	116
025-S093	Programming Error Repair Guidance Based on Historical Learning Behavior <i>Qian Zhang, Menghua Cao, Tao Wang, Junsheng Chang</i>	122
026-W032	Sequential Multi-Kernel Convolutional Recurrent Network for Sentiment Classification <i>Ariyo Oluwasanmi, Shokanbi Akeem, Jackson Jehoaida, Muhammad Umar Aftab, Negalign Hundera, Bulbula Kumeda, Edward Baagere, Zhiguang Qin</i>	129
027-S064	An Optimal Rate Control Algorithm for HEVC Inter Frame Based on SVM <i>Xueyan Gao, Zhaohui Li, Yuan Zhang</i>	134
028-S077	The Research on Formal Verification of CPU Structure Based on Theorem Proving <i>Hongwei Yang, Dianfu Ma</i>	139
029-W040	Research on DDoS Attack Detection Based on ELM in IoT Environment <i>Zhihui Li, Lihong Wei, Wei Li, Lai Wei, Minshi Chen, Ming Lv, Xulong Zhi, Chenguang Wang, Nan Gao</i>	144
030-S070	A Monitor Method based on Adaptive Frequency for Self-Adaptive Software <i>Wen Cheng, Qingshan Li, Lu Wang</i>	149
Session 4		
031-S046	Cross-Site Large-Scale Software Delivery with Enhanced Git Branch Model <i>CheYu Chang, PeiPei Ou, DerJiunn Deng</i>	153
032-S029	P-value Based Task Allocation in a Scrum Team: A Multi-Agent Simulation <i>Zhe Wang</i>	157
033-S001	Advance Recommendation System for the Formation of More Prolific and Dynamic Software Project Teamss <i>Mahreen Ahmad, Wasi Haider Butt, Abrar Ahmad</i>	161

034-S002	The Algorithm for Detecting Malfunctions by Means of the SURF Feature Points Based on Probability and Statistics <i>WenTao Fan, Kaijin Qiu</i>	166
035-S004	Images'Partially Blurred Part Location and Restoration based on the Calculation Model and GAN Algorithm <i>Tanghong Wu, Haiyi Mao, Kangyang Xie, Yi Xie</i>	171
036-S015	A Spatialization Model of 3D Trees'Elements and Its Application <i>Zhangang Wang, Xian Zhu</i>	176
037-S018	Design and Implementation of Embedded Protocol Conversion Gateway for Intelligent Buildings <i>Jiangmiao Xie, Qiang Gao</i>	182
038-S022	Scheduling Algorithm Comparative Study on Mixed-Flow Blending Production System with JSSP <i>Hanlin Yu, Yabo Luo</i>	187
039-S026	HDCNN-CRF for Biomedical Text Named Entity Recognition <i>Mingyuan Gao, Hao Wei, Fei Chen, Wen Qu, Mingyu Lu</i>	191
040-W075	A Survey of SSD Lifecycle Prediction <i>Qiang Li, Hui Li, Kai Zhang</i>	195
Session 5		
041-W010	The Implementation of B1C Multithreaded Software Receiver Based on SIMD Technique <i>Yuan Tian, Qing Chang</i>	199
042-W011	Empirical Study: Are Complex Network Features Suitable for Cross-Version Software Defect Prediction? <i>Houleng Gao, Minyan Lu, Cong Pan, Biao Xu</i>	206
043-S005	A GAN-based Motion Blurred Image Restoration Algorithm <i>Jiaqi Qiu, Kangyang Xie</i>	211
044-S006	Temperature and E-field Model Simulation of Transformer Outlet Based on Computer-based Design <i>Zhang Shiling</i>	216
045-S017	Design and Implementation of a Program Trading Platform for Futures <i>Lifan Yang, Qiang Gao</i>	221
046-S021	Field-aware Evolutionary Fuzzing Based on Input Specifications and Vulnerability Metrics <i>Yunchao Wang, Zehui Wu, Qiang Wei, Qingxian Wang</i>	226
047-S023	Human Behavior Recognition Algorithm Based on HOG Feature and SVM Classifier <i>Qing Cai</i>	233
048-W030	Prediction of HDD Failures by Ensemble Learning <i>Qiang Li, Hui Li, Kai Zhang</i>	237
049-W070	Tunneling SSL VPN Based on PF_RING <i>Wu KeHe, Zhao Peng, Cui WenChao, Zhang XianKang, Cui AJun</i>	241
050-S008	DGA Domain Name Detection Based on SVM Under Grey Wolf Optimization Algorithm <i>Jingyu Huang, Guidong Zhang, Yongjun Shen</i>	245
Session 6		

051-W012	An Identification Method for Critical Nodes of Fault Propagation Based on Software Dynamic Execution Network <i>Chao Tang, Minyan Lu, Shiyi Kong</i>	249
052-S009	A Self-Adaptive Trend Extraction Algorithm: Based on Slope and Relative Displacement <i>Jinyao Wu, Xuzhai Wang</i>	256
053-S016	Property Prediction of Molecules in Graph Convolutional Neural Network Expansion <i>Mei Meng, Zhiqiang Wei, Zhen Li, Mingjian Jiang, Yujie Bian</i>	263
054-S033	Design and Implementation of B/S Architecture Code Automatic Generation System <i>Jiale Han, Tianpu Zhao, Zhibo Yu, Wei Shi, Min Huang</i>	267
055-S037	Emulation of Router Functions Based on A Cloud Platform <i>Jianyu Chen, He Song, Xiaofeng Wang, Sijie Yang</i>	271
056-S035	Financial Network Representation Learning for Time Series Investment Behavior <i>Juncheng Li, Guanghui Yan, Shan Wang, Junbo Bao</i>	277
057-S020	Detecting Interprocedural Infeasible Paths via Symbolic Propagation and Dataflow Analysis <i>Huiquan Gong, Yuwei Zhang, Ying Xing, Wei Jia</i>	282
058-S024	FDNN: Feature-based Deep Neural Network Model for Anomaly Detection of KPIs <i>Zhibo Lan, Liutong Xu, WeiFang</i>	286
059-W050	Storage Performance Prediction <i>Qiang Li, Hui Li, Kai Zhang</i>	290
060-S082	Fine-grained Human Action Recognition Based on Zero-Shot Learning <i>Yahui Zhao, Ping Shi, Jian You</i>	294
Session 7		
061-S028	Research on Bipartite Network Embedding with Auxiliary Information <i>Hasnat Ahmed, Shahbaz Ali</i>	298
062-S040	Learning Static and Dynamic Features for Collaborative Filtering <i>Xueyao Yang, Hong Jiang</i>	304
063-S041	An Improvement on the Authentication and Encryption of Ceph in Unreliable Environments <i>Kangning Dai, Bo Chen</i>	309
064-S044	Personalized Learning Path Generation based on Network Embedding and Learning Effects <i>Wan Li, Lei Zhang</i>	316
065-S066	Adaptive Virtual Machine Scheduling Algorithm Based on Improved Particle Swarm Optimization <i>Chuanjiang Wei, Yi Zhuang</i>	320
066-W052	A LSTM Based Campus Network Traffic Prediction System <i>Yue Geng, Shuyu Li</i>	327
067-S080	Low-cost 3D Building Modeling via Image Processing <i>Yinxin Li, Zhengyang Ding, Weiwei Miao, Mingxuan Zhang, Wei Li, Wen Ye</i>	331
068-S085	Automated Fault Detection for Web Services using Naïve Bayes Approach <i>Xing Xing, Jianyan Luo, Zhichun Jia, Yanyan Li, Qiuyang Han</i>	336
069-S086	Design and Implementation of Vehicle Safety Robot Based on Computer Vision	340

*Yuankai Ma, Xubo Liu, Jiahang Bao, Chang Liu, Zhitao Dai*

- 070-S088 A Hybrid Electronic Components Detection Parameter Sequence Optimization Method based on Random Forest and Mean Decrease Accuracy 345  
*Yong Shuai, Chuan Yang, Jie Chen, Can Yuan, Tailiang Song*

Session 8

- 071-S089 Secondary Screening Detection Optimization Method for Electronic Components Based on Artificial Intelligence 349  
*Yong Shuai, Chuan Yang, Jie Chen, Can Yuan, Tailiang Song*

- 072-S092 Research on Real-time Learning Prediction Method Based on Spark 354  
*Shaolin Gong, Xuan Qin*

- 073-S094 An Adaptive Pooling Model for Aesthetic Quality Assessment Based on Convolutional Neural Network 358  
*Mingliang Han, Ping Shi, Xiaojie Bao*

- 074-S099 Design of Dual-mode Low Altitude Surveillance System Based on Wireless Sensor Network 362  
*Shaolin Gong, Xiulin Yan*

- 075-S102 Research on the Sentiment Analysis Based on Machine Learning and Feature Extraction Algorithm 366  
*Xiaofang Jin, Ying Xu*

- 076-S104 Research on Liveness Detection Algorithms Based on Deep Learning 370  
*Ying Fan, Yilin Shi, Xianliang Wang, Haiyang Yi*

- 077-S113 Basic Summary of Non-intrusive Load Monitoring 376  
*Lu Zhang, Lin Zhu*

- 078-S118 A Cross-Layer Optimization Algorithm Based on Power Control for Wireless Sensor Network 381  
*Deyu Zhang, Min Zhou, Yanhui Lv, Le Jiao*

- 079-S123 Surface Gesture as Extension Usage Scenario of Smart Watch 385  
*Lu Huihui*

- 080-S128 Text Summarization Model of Combining Global Gated Unit and Copy Mechanism 390  
*Shuxia Ren, Kaijie Guo*

Session 9

- 081-S042 Automated Reasoning towards Quantitative Security Assurance 394  
*Zhengshu Zhou, Qiang Zhi, Shuichiro Yamamoto, Zilong Liang*

- 082-S051 The Service Computational Resource Management Strategy Based On Edge-Cloud Collaboration 400  
*You Li, Liutong Xu*

- 083-S052 A Trace Agent with Code No-invasion Based on Byte Code Enhancement Technology 405  
*Hongrun Wang, Wei Fang*

- 084-S057 Facial Expression Recognition Based on Convolutional Neural Network 410  
*Zhou Yue, Feng Yanyan, Zeng Shangyou, Pan Bing*

- 085-S060 Batched Trajectory Compression Algorithm Based on Hierarchical Grid Coordinates 414  
*Lin Li, XueZhi Xia, XiaoLong Liu, Yu An*

086-S062	A Segmentation-driven Handwritten Uighur Word Recognition Algorithm Based on Feedback Structure <i>Yamei Xu, Jili Xue</i>	419
087-S063	Hybrid Way of Code Coverage Tracking in Fuzz <i>Hanyi Nie, Xu Zhou, Junnan Zhang</i>	424
088-S106	A Retransmission Control Scheme with Adjustment Factor for Hierarchical Secondary Users in CRNs <i>Yuan Zhao, Hongyi Li and Jiemin Liu</i>	428
089-S047	Jointly Temporal Pooling Networks and Multi-loss Fusion for Video-based Person Re-Identification <i>Huanhuan Xu, Xuemei Sun</i>	432
090-S014	Analysis of Classroom Teaching Status Based on Target Detection Model <i>Biao Wang, Xiao Guo</i>	436
Session 10		
091-S111	Algorithm Study for Supersonic Steam Injection Process Simulation of The Pressurizer Relief Tank <i>Yi Wang, XiaoWei Guo, Chao Li, Lijuan Chen, Ran Zhao, Canqun Yang</i>	440
092-S119	Optimized Design of Resource Sharing and Isolation for Integrated Modular Avionics <i>Rui Guo, Deming Zhong, Rui Sun, Haoyuan Gong, Yun Zha</i>	444
093-S124	SSA-MSV: Multiple Supply Voltage for VLSI based on SSA <i>Yulin Liu, Rongzhong Chen, Chen Dong, Zhenyi Chen</i>	448
094-S126	A New Distributed Power System for Stability Prediction And Analysis <i>Durong Yin, Yi Yang, Mao Yang, Zhigang Yang, Caihong Li, Lian Li</i>	453
095-S129	A Safety Test Case Generation Approach for Airborne Software Based on General Failure Modes <i>Yunfeng Lu, Chao Li, Yang Liu</i>	456
096-S133	Optimization The Waste Management Based on Genetic Algorithm Multiobjective <i>Johan Pamungkas, Catur Wahyu Wijaya</i>	462
097-S137	Implementation of Behavior Recognition Based on Machine Vision <i>Yuanjun Ding, Haibo Pu, Jiixin Zhang, Jing Yang</i>	466
098-S139	Research on Chinese Naming Recognition Model Based on BERT Embedding <i>Qing Cai</i>	471
099-S032	Research and Implementation of Online Judgment System Based on Micro Service <i>Zhibo Yu, Jiale Han, Tianpu Zhao, Ning Tian, Jingyang Wang</i>	475
100-S103	Research on Trusted Authentication Model and Mechanism of Data Fusion <i>Yitao Qian</i>	479
Session 11		
101-S162	Android Malware Detection Based on Naïve Bayes <i>Jiaqi Pang, Jiali Bian</i>	483
102-S158	PPG Signal Identification Method Based on CSA-SVM <i>Kaili Wang, Xiaohui Chen</i>	487

103-S147	Vehicle Type Recognition Based on Radon-CDT Hybrid Transfer Learning <i>Shujuan Guan, Bin Liao, You Du, Xiangyun Yin</i>	491
104-S110	An Enhanced ART in High Dimensional Input Domain <i>Zhibo Li, Qingbao Li, Renjie Li, Ling Wang</i>	495
105-S100	Application Research of Artificial Intelligence in the Fifth Generation Mobile Communication Technology <i>Hailin Liu, Yuanyuan Wang, Bingfu Hu</i>	498
106-S130	Application of GA-Optimized ANN on Modeling the Performance of Coiled Adiabatic Capillary Tubes <i>Yuchen Zhou, Guobing Zhou</i>	502
107-S141	Research on Two-dimensional Cutting Problem with Defects <i>Keqiang Wu, Xiaoping Min, Defu Zhang</i>	506
108-S148	Pointer-Generator Abstractive Text Summarization Model with Part of Speech Features <i>Shuxia Ren, Zheming Zhang</i>	514
109-S150	CTL Model Checking based on Probe Machine <i>Weijun Zhu, Yichen Liu, En Li</i>	518
110-W088	Concentric Circle Detection Method Based on Minimum Enveloping Circle and Ellipse Fitting <i>Yiran Gu, Yifei Lu, Haigen Yang, Jianlin Huo</i>	523
Session 12		
111-S174	Android Malware Detection Based on Logistic Regression and XGBoost <i>Li Suhuan, Huang Xiaojun</i>	528
112-S172	A Chinese Question Answering System based on GPT <i>Shuai Liu, Xiaojun Huang</i>	533
113-S171	An Automatic Test Platform for Computer Interlocking System <i>Guohua Wang, Zhanyu Shen</i>	538
114-W090	Fast Positioning Method for Concentric Circle Marks Based on Color and Shape Features <i>Yiran Gu, Jianlin Huo, Haigen Yang, Yifei Lu</i>	542
115-S167	Joint Makespan-aware and Load Balance-aware Optimization of Task Scheduling in Cloud <i>Xiaoxia Luo, Bo Cheng</i>	547
116-S164	Application of Deep Learning in Stock Market Valuation Index Forecasting <i>Ge Li, Ming Xiao, Ying Guo</i>	551
117-S161	Design and Research of Edge Layer Service Platform Based on Flexible Service Architecture <i>Shilong Liu, Yunxiao Zu</i>	555
118-S157	Language to Code with Open Source Software <i>Lei Tang, Xiaoguang Mao, Zhuo Zhang</i>	561
119-S154	Business-Aware ERP Cloud Software Evolution <i>Longye Tang, Wenjie Xu, Daisen Wei</i>	565
120-S152	An Approach to Transform Enterprise Architecture Models from Systemigrams <i>Chengchen Xia, Qiang Zhi, Zhengshu Zhou, Shuichiro Yamamoto</i>	571

Session 13

121-S038	A Framework for Track Consistency Processing Based on Blockchain <i>Lin Li, Xuezhi Xia, Wei Chen</i>	575
122-A244	SDFS: A Scalable Data Feed Service for Smart Contracts <i>Juan He, Rong Wang, WeiTek Tsai, Enyan Deng</i>	581
123-S123	Spatial Image Data Traceability and Interaction Mechanism Based on Alliance Chain <i>Wentao Fu, Huien Shi, Jianhua Huang, Yuanfa Ji, Xiyun Sun, Suqing Yan</i>	586
124-S135	Blockchain E-Voting Done Right: Privacy and Transparency with Public Blockchain <i>Kristián Košťál, Rastislav Bencel, Michal Ries, Ivan Kotuliak</i>	592
125-S169	Blockchain for Digital Rights Management of Design Works <i>Zihao Lu, Youqun Shi, Rao Tao, Zhaohui Zhang</i>	596
126-W079	The Messaging Model Design Based Blockchain and Edge Computing for the Internet of Things <i>Yue Jiang, He Bai, Hui Yang</i>	604
127-S155	Parallelized Key Expansion Algorithm for Advanced Encryption Standard <i>Abid Murtaza, Syed Jahanzeb Hussain Pirzada, M. Nomam Hasan, Tongge Xu, Liu Jianwei</i>	609
128-S073	A Mirco-Service Tracing System Based on Istio and Kubernetes <i>Meina Song, Qingyang Liu, Haihong E</i>	613
129-S149	SPPlagiarise: A Tool for Generating Simulated Semantics-Preserving Plagiarism of Java Source Code <i>Hayden Cheers, Yuqing Lin, Shamus P. Smith</i>	617
130-S127	Software Effective Evaluating Technology: SWEET <i>Yaozong Li, Tao Wang, Yue Yu, Dongyang Hu</i>	623
Session 14		
131-S143	Fruit Market Trend Forecast Using Kmeans-based Deep Learning Models <i>Yongming Fang, Xiaoping Min, Ling Zheng, Defu Zhang</i>	628
132-S151	Early Sepsis Prediction in ICU Trauma Patients with Using An Improved Cascade Deep Forest Model <i>Mengsha Fu, Jiabin Yuan, Chen Bei</i>	634
133-S156	Trends of Intel MIC Application In Bioinformatics <i>Xinyi Wang, Cangshuai Wu, Zhen Huang</i>	638
134-S166	Combine Discussion Mechanism and Chaos Strategy on Particle Swarm Optimization Algorithm <i>Xinwen Fan, Yin Ye, Zhenyi Chen, Zhixing Hong, Zhenyu Qiu, Chen Dong</i>	642
135-W073	An Approximate CTL Model Checking Approach <i>Weijun Zhu, Pan Feng, Miaolei Deng</i>	646
136-S095	A General Structure Mining Method Based on Connection Feature Pairs <i>Yu Zhiqiang, Sun Wei, Ouyang Senshan</i>	649
137-S142	Modeling and Simulation of Vehicle Braking System Based on PID Control <i>Xin Chen, Mingmao Hu, Quguang Guan</i>	654
138-S165	Unmatching Observer-based Controller Design for T-S Time-delay Systems <i>Zejian Zhang, Peng Li, Dawei Wang, Xiaozhi Gao</i>	658



139-W085	Simulation and Optimization of Intelligent Workshop Layout and Logistics Transportation by System Layout Planning Combined with Em-plant <i>Xu Mengzhen, Wang Yong, Yang Haigen, Wang Lei, Han Longbao, Yu Hongyan, Xu Wenting, Ma Jun</i>	663
140-W082	Analysis of Air Defense and Antimissile Process in Uncertain Environment <i>Yunxiang Ling, Li Ma, Hao Chen</i>	668
Session 15		
141-S160	Convolutional Neural Network Method for Particle Selection of Cryo-EM Micrographs <i>Du Xuan, Luo Lei, Su Huayou, Li Dongsheng, Jiang Yue</i>	672
142-W080	SVM Based Classification and Fusion Algorithm of Steady-state Signal Features of Radiation Source <i>Liuyang Gao, Mingzhong Liu, Jingzhi Zhang, Jiaying Yue</i>	677
143-S175	An Improved Spatial Data Structure for Web-based Large-scale 3D Scene <i>Jiaxi Chen, Wei Fang</i>	681
144-S140	Visual Analysis of Cybersecurity Situational Awareness <i>Yuanfa Zhang, Jingjing Zhang, Bing Zhang</i>	685
145-S168	An Empirical Evaluation of Machine Learning Algorithms for Identifying Software Requirements on Stack Overflow: Initial Results <i>Arshad Ahmad, Chong Feng, Adnan Tahir, Asif Khan, Muhammad Waqas, Sadique Ahmad, Ayaz Ullah</i>	689
146-W098	A Semi-Partition Algorithm for Mixed-Criticality Tasks in Multiprocessor Platform <i>Lining Zeng, Yuan Lei, Yanxing Li</i>	694
147-S145	Modification of Initialization Vector for Parallel CMAC Algorithm <i>Syed Jahanzeb Hussain Pirzada, Abid Murtaza, Muhammad Shahid, Tongge Xu, Liu Jianwei</i>	698
148-S159	Two-stream Attention-aware Network for Spontaneous Micro-expression Movement Spotting <i>Bo Sun, Siming Cao, Jun He, Lejun Yu</i>	702
149-S132	An Microservices-Based Openstack Monitoring Tool <i>Meixia Yang, Ming Huang</i>	706
150-S072	A Method of Oil Well Production Prediction Based on PCA-GRU <i>Hongtao Hu, Jinrong Feng, Xin Guan</i>	710
Session 16		
151-S136	The Smart Shopping Basket Based on IoT Applications <i>Sakorn Mekruksavanich</i>	714
152-S173	The Collaborative Identification of Design Flaws in Software Systems <i>Patcharapan Thongkum, Sakorn Mekruksavanich</i>	718