

QRS 2021 Session Schedule

All the sessions are based on the time in Hainan Island, China (UTC+8)

- Online tracks via Zoom
- In-person tracks at [the International Academic Exchange Center](#) of Hainan University (三楼和怡厅)
- Click [HERE](#) for information to log into Zoom meetings
- Click [HERE](#) for information to vote for Best Paper Award and recommendation for IEEE Transactions on Reliability
- **Videos of keynote speeches and pre-recorded videos of accepted papers will be posted on the conference website**

Monday, December 6, 2021		
14:00 – 17:00	Registration	Lobby

Tuesday, December 7, 2021		
08:00 – 08:15	Registration	Lobby
08:15 – 08:30	• Opening Ceremony	Zoom + in-person
08:30 – 09:15	• Keynote Speech I	Zoom + in-person
09:15 – 10:00	• Keynote Speech II	Zoom + in-person
10:00 – 10:45	• Keynote Speech III	Zoom + in-person
10:45 – 11:00	Coffee Break	
11:00 – 12:30	• Session I-A: System and Software Security I	In-person
11:00 – 12:30	• Session I-B: Human and Social Aspects of Software Quality (W)	Zoom
12:30 – 13:30	Lunch	
13:30 – 15:00	• Session II-A: Software Testing I	In-person
16:45 – 18:25	• Session II-B: Automated and Intelligent Software Testing (W)	In-person
15:00 – 15:15	Coffee Break	
15:15 – 16:45	• Session III-A: Model and Algorithm	In-person
15:15 – 16:45	• Session III-B: Dependability Testing and Evaluation of Safety-Critical Systems (W)	Zoom
18:30 – 20:00	Dinner	
21:00 – 22:30	• Session IV-A: Software Testing and Verification	Zoom
21:00 – 22:30	• Session IV-B: System and Software Security II	Zoom
21:00 – 22:30	• Session IV-C: Program Debugging and Vulnerability Analysis	Zoom
14:00 – 15:30	• Session IV-D: Reliability Models for Ageing and Degradation with Novel Applications (W)	Zoom
22:30 – 24:10	• Session V-A: AI for Software Engineering I	Zoom
22:30 – 24:10	• Session V-B: Reliability and Quality Assurance	Zoom
22:30 – 24:10	• Session V-C: Empirical Study I	Zoom

Wednesday, December 8, 2021		
08:00 – 08:30	Registration	Lobby
08:30 – 09:45	• Best Paper Award Session	Zoom + in-person
09:45 – 10:15	Coffee Break	
10:15 – 11:45	• Session VI-A: Quality Assurance	In-person
10:15 – 11:45	• Session VI-B: Autonomous Vehicle Software (W)	Zoom

11:45 – 13:30	Lunch	
13:30 – 15:00 13:30 – 15:00	<ul style="list-style-type: none"> • Session VII-A: Fault Localization and Debugging • Session VII-B: Industry Report & Reliability and Security for Multiprocessor Interconnection Networks (W) 	In-person Zoom
15:00 – 15:30	Coffee Break	
15:30 – 17:00 15:30 – 17:00	<ul style="list-style-type: none"> • Session VIII-A: Software Reliability and Defect Analysis • Session VIII-B: Fault Localization and Repair for AI Systems & Safety and Security in Cyber-Physical Systems (W) 	In-person Zoom
18:00 –	Conference Banquet	
14:00 – 15:30 21:00 – 22:30 13:00 – 16:00	<ul style="list-style-type: none"> • Session IX-A: AI for Software Engineering II • Session IX-B: System Testing and Validation (W) • Session IX-C: Fault Prediction, Prevention, Detection, and Reliability Enhancement I (W) 	Zoom Zoom Zoom
21:00 – 22:30	<ul style="list-style-type: none"> • Session IX-D: Dependability Testing & Data Quality Engineering & Prognostics and Health Management (W) 	Zoom
22:30 – 24:00 14:00 – 15:30 13:00 – 16:00 14:00 – 16:00	<ul style="list-style-type: none"> • Session X-A: Blockchain and Smart Contracts & Trustworthy IoT (W) • Session X-B: Cyber Forensics, Security, and E-discovery & Testing and Verification of Programmable Chips (W) • Session X-C: Fault Prediction, Prevention, Detection, and Reliability Enhancement II (W) • Session X-D: Predictive Maintenance (W) 	Zoom Zoom Zoom Zoom

Thursday, December 9, 2021

08:00 – 08:30	Registration	Lobby
08:30 – 09:45	<ul style="list-style-type: none"> • IEEE Transactions on Reliability Session 	Zoom + in-person
09:45 – 10:15	Coffee Break	
10:15 – 11:45 10:15 – 11:45	<ul style="list-style-type: none"> • Session XI-A: Empirical Study II • Session XI-B: Software Engineering and Knowledge Management (W) 	In-person Zoom
11:45 – 13:30	Lunch	
13:30 – 15:00 13:30 – 15:00	<ul style="list-style-type: none"> • Session XII-A: Software Testing II • Session XII-B: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid I (W) 	In-person Zoom
15:30 – 17:00 15:30 – 17:10	<ul style="list-style-type: none"> • Session XIII-A: Software Defect Prediction and Analysis & Reliability and Resilience of Complex Systems (W) • Session XIII-B: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid II (W) 	Zoom Zoom
11:00 – 12:30 21:00 – 23:00 21:00 – 22:30	<ul style="list-style-type: none"> • Session XIV-A: Intelligent Evolutionary Computation (W) • Session XIV-B: Fast Abstract Session • Session XIV-C: Software Engineering and Big Data (W) 	Zoom Zoom Zoom
22:30 – 24:00 14:00 – 16:00	<ul style="list-style-type: none"> • Session XV-A: Quality, Reliability, and Security I (W) • Session XV-B: Quality, Reliability, and Security II (W) 	Zoom Zoom

Friday, December 10, 2021

09:00 – 11:00	Post-conference Round-Table Discussion	
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QRS 2021 Detailed Presentation Schedule

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Tuesday, December 7, 2021		
08:00 – 08:15	Registration	Lobby
08:15 – 08:30	<p>Opening Ceremony</p> <ul style="list-style-type: none"> • Steering Committee Chair W. Eric Wong, University of Texas at Dallas, USA • Welcome Remarks – Qiang Miao Vice President, IEEE Reliability Society, China • Program Chairs – Henrique Madeira, University of Coimbra, Portugal – Katerina Goseva-Popstojanova, West Virginia University, USA – Zheng Zheng, Beihang University, China <p>Note: 08:15 Tuesday (December 7), Hainan, China 00:15 Tuesday (December 7), Coimbra, Portugal 19:15 Monday (December 6), US Eastern Time 18:15 Monday (December 6), US Central Time 17:25 Monday (December 6), US Mountain Time 16:25 Monday (December 6), US Pacific Time</p>	Zoom + In-person
08:30 – 09:15	<ul style="list-style-type: none"> • Keynote Speech I Chair: Katerina Goseva-Popstojanova <p style="color: blue;"><i>The Temptation of Searching for the Best–Balancing Validity and Optimality in Software Engineering</i></p> <p>Professor Guenther Ruhe, Canada Department of Computer Science & Department of Electrical and Software Engineering University of Calgary, Canada</p> <p>Editor-in-Chief, Elsevier Information and Software Technology (IST) Journal</p>	Zoom + In-person
09:15 – 10:00	<ul style="list-style-type: none"> • Keynote Speech II Chair: Zheng Zheng <p style="color: blue;"><i>Towards Model-Driven Intelligent Software Development Platform for Safety-Critical Systems</i></p> <p>Professor Chunming Hu, China Dean, School of Software Beihang University, China</p>	Zoom + In-person

10:00 – 10:45	<ul style="list-style-type: none"> • Keynote Speech III Chair: Zhenyu Chen <p style="text-align: center;"><i>ICT Software System Reliability Design and New Challenges</i></p> <p>Dr. Xiao Chen, China Chief Software Reliability Expert Huawei, China</p>	Zoom + In-person
10:45 – 11:00	Coffee Break	
11:00 – 12:30 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session I-A: System and Software Security I Chair: Zhiyi Zhang ◦ <i>Impact of Datasets on Machine Learning based Methods in Android Malware Detection: An Empirical Study</i> Xiuting Ge, Yifan Huang, Zhanwei Hui, Ya Pan, Yong Fan, Xiaojuan Wang, and Xu Cao ◦ <i>ConcSpectre: Be Aware of Forthcoming Malware Hidden in Concurrent Programs</i> Yang Liu, Ming Fan, Ting Liu, Yu Hao, Zisen Xu, Kai Chen, Hao Chen, and Yan Cai ◦ <i>CTScopy: Hunting Cyber Threats within Enterprise via Provenance Graph-based Analysis</i> Rui Mei, Hanbing Yan, Zhihui Han, and Jianchun Jiang ◦ <i>Explainable APT Attribution for Malware using NLP Technique</i> Qinqin Wang, Hanbing Yan, and Zhihui Han ◦ <i>Dynamic Interval-based Watermarking for Tracking down Network Attacks</i> Lian Yu ◦ <i>A Novel Method to Prevent Multiple Withdraw Attack on ERC20 Tokens</i> Jinlei Sun, Song Huang, Changyou Zheng, Meijuan Wang, and Zhanwei Hui 	In-person
11:00 – 12:30 (10 minutes/ paper)	<ul style="list-style-type: none"> • Session I-B: Human and Social Aspects of Software Quality (W) Chair: Ziyuan Wang ◦ <i>Mixed Granularity and Variable Mapping based Automatic Software Repair</i> Heling Cao, Zhiying Cui, Yangxia Meng, Yonghe Chu, and Lei Li ◦ <i>Improving Blocking Bug Pair Prediction via Hybrid Deep Learning</i> Zhihua Chen and Xiaolin Ju ◦ <i>A Machine Learning-based Static Analysis Warning Prioritization</i> Mingshuang Qing, Jingui Zhang, Ping Wang, Yong Fan, Xiuting Ge, Ya Pan, Jun Luo, Wanmin Huang, and Xiang Feng ◦ <i>DeepMnist: A Method of White Box Testing based on Hierarchy</i> Yunjian Xu, Zhiyi Zhang, Yuqian Zhou, and Zhiqiu Huang ◦ <i>A Quantitative Evaluation Method of Software Usability based on Improved GOMS Model</i> Kunlong Wang, Kanjing Li, Jinhua Gao, Bing Liu, Zhi Fang, and Wenjun Ke ◦ <i>Importing Eye Tracking Regarding with Human Aspects in Software Quality</i> Haochen Wang and Jasulan Shokysalov ◦ <i>Android Privacy Protocol and Permission Consistency Testing</i> Yongming Yao, Ruizhi Qi, and Zhongju Yang ◦ <i>Evolving the Edge and the Cloud: A Hybrid Computing Paradigm</i> Jin Wang ◦ <i>An Empirical Study of Solidity Language Features</i> Ziyan Wang, Xiangping Chen, Xiaocong Zhou, Yuan Huang, and Zibin Zheng 	Zoom

12:30 – 13:30	Lunch	
13:30 – 15:00 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session II-A: Software Testing I Chair: Tao Zhang <ul style="list-style-type: none"> ○ <i>DroidGamer: Android Game Testing with Operable Widget Recognition by Deep Learning</i> Bo Jiang, Wenlin Wei, Li Yi, and W.K. Chan ○ <i>Increasing Fuzz Testing Coverage for Smart Contracts with Dynamic Taint Analysis</i> Songyan Ji, Jian Dong, Junfu Qiu, Bowen Gu, Ye Wang, and Tongqi Wang ○ <i>Unit Crowdsourcing Software Testing of Go Program</i> Luo Run and Song Huang ○ <i>Application of Combinatorial Testing to Quantum Programs</i> Xinyi Wang, Paolo Arcaini, Tao Yue, and Shaukat Ali ○ <i>Automated Testing of Android Applications Integrating Residual Network and Deep Reinforcement Learning</i> Lizhi Cai, Jilong Wang, Mingang Chen, and Jin Wang ○ <i>SQDroid: A Semantic-driven Testing for Android Apps via Q-learning</i> Hui Guo, Xiaoqiang Liu, Baiyan Li, Lizhi Cai, Yun Hu, and Jing Cao 	In-person
16:45 – 18:25 (10 minutes/ paper)	<ul style="list-style-type: none"> • Session II-B: Automated and Intelligent Software Testing (W) Chair: Chunrong Fang <ul style="list-style-type: none"> ○ <i>Automated Functional Testing of Search Engines using Metamorphic Testing</i> Xinyi Wang, Gaolei Yi, and Yichen Wang ○ <i>MQP: Mutants Quality Prediction for Cost-effective Mutation Testing</i> Xingya Wang, Shiyu Zhang, Fangxiao Liu, and Zhihong Zhao ○ <i>Semantic-based False Alarm Detection Approach via Machine Learning</i> Meiyuan Qian, Jun Luo, Yu Ge, Sun Chen, Xiuting Ge, and Wanmin Huang ○ <i>The Effect of Combinatorial Coverage for Neurons on Fault Detection in Deep Neural Networks</i> Ziyuan Wang ○ <i>ADVRET: An Adversarial Robustness Evaluating and Testing Platform for Deep Learning Models</i> Fei Ren, Yonghui Yang, Chi Hu, Yuyao Zhou, and Siyou Ma ○ <i>Test Case Reuse Technology based on Software Test Knowledge Graph and Collaborative Filtering Recommendation Algorithm</i> Wansheng Yang ○ <i>A Robustness-Oriented Data Augmentation Method for DNN</i> Meixi Liu, Weijiang Hong, Weiyu Pan, and Chendong Feng ○ <i>Metamorphic Testing for Traffic Light Recognition in Autonomous Driving Systems</i> Tongtong Bai, Mingshuang Qing, Yong Fan, and Ya Pan ○ <i>Metamorphic Testing for Autonomous Driving Systems in Fog based on Quantitative Measurement</i> Ya Pan, Haiyang Ao, and Yong Fan ○ <i>Application-oriented Serial Interface Communication Protocols Formal Modeling Method</i> Yuan Chen, Yu Zhao, and Junjie Wang 	In-person
15:00 – 15:15	Coffee Break	
15:15 – 16:45 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session III-A: Model and Algorithm Chair: Zhao Li <ul style="list-style-type: none"> ○ <i>An Effective Crowdsourced Test Report Clustering Model based on Sentence Embedding</i> Hao Chen, Song Huang, Yuchan Liu, Run Luo, and Yifei Xie 	In-person

	<ul style="list-style-type: none"> ○ <i>An Incomplete Unsatisfiable Cores Extracting Algorithm to Promote Routing</i> Jianmin Zhang, Tiejun Li, and Siqing Fu ○ <i>A K-means Improved CTGAN Oversampling Method for Data Imbalance Problem</i> Chunsheng An, Jingtong Sun, and Yifeng Wang ○ <i>ReDefender: A Tool for Detecting Reentrancy Vulnerabilities in Smart Contracts Effectively</i> Zhenyu Pan, Tianyuan Hu, Chen Qian, and Bixin Li ○ <i>WANA: Symbolic Execution of Wasm Bytecode for Extensible Smart Contract Vulnerability Detection</i> Bo Jiang, Yifei Chen, Dong Wang, and W.K. Chan ○ <i>Hybrid Collaborative Filtering-based API Recommendation</i> Yongchao Wang, Yu Zhou, Taolue Chen, Zhiqiu Huang, Jingxuan Zhang, and Wenhua Yang 	
15:15 – 16:45 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session III-B: Dependability Testing and Evaluation of Safety-Critical Systems (W) Chair: Shunkun Yang ○ <i>Research on Fault Diagnosis in Early Stage of Software Development based on Object-oriented Bayesian Networks</i> Hongman Li, Peng Xu, Qilin Zhao, and Yihong Liu ○ <i>A Review of Reliability, Vulnerability and Resilience Analysis of Smart Grid based on Complex Network</i> Linglin Gong, Yizhuo Zhang, Minghao Yang, Fang Liu, Yujia Li, and Qi Yao ○ <i>Quantitative Analysis of Software Fault-tolerance Design Modes based on Probabilistic Model Checking</i> Qi Shao, Weiwei Chen, Fuping Zeng, Zhijie Gao, Zhiyu Duan, and Ouya Lin ○ <i>An Automatic Analysis Framework of Detailed-level Software Fault Modes and Effects based on Code Model</i> Fuping Zeng, Yiran Ma, and Guoqing Pan ○ <i>Detection Software Content Failures using Dynamic Execution Information</i> Shiyi Kong, Minyan Lu, Bo Sun, Jun Ai, and Shuguang Wang ○ <i>Uplink Transmission Performance Evaluation and Prediction of Railway Balises based on AHP-WNN</i> Qingyang Xu, Jinghui Meng, Yimeng Luo, and Shuzhong Yang ○ <i>VrFy: Verification of Formal Requirements using Generic Traces</i> Jorrit J. Olthuis, Rodolfo Jordão, Francesco Robino, and Sina Borrami ○ <i>Dirmap: Web Application Vulnerability Detection Platform based on Script Code</i> Chi Zhang, Jinfu Chen, Xinxue Lin, Saihua Cai, Haibo Chen, and Ye Geng ○ <i>An Identification Algorithm of Attacking Programs based on Quadratic Feature Selection and Fast Decision Tree</i> Jinfu Chen, Dengzhou Shi, Saihua Cai, Songling Qin, Zhenxin Wang, and Qiyong Zhong 	Zoom
18:30 – 20:00	Dinner	

Additional Online Sessions

<p>21:00 – 22:30 (10 minutes/ paper)</p>	<ul style="list-style-type: none"> • Session IV-A: Software Testing and Verification Chair: Linghuan Hu <ul style="list-style-type: none"> ○ <i>On the Automation of Audio Plugin Testing</i> Stephan Valentan and Franz Wotawa ○ <i>TAF: a Tool for Diverse and Constrained Test Case Generation</i> Clement Robert, Jeremie Guiochet, Helene Waeselynck, and Luca Vittorio Sartori ○ <i>OPE: Transforming Programs with Clean and Precise Separation of Tested Intraprocedural Program Paths with Path Profiling</i> Chunbai Yang, Imran Ashraf, Xiaoxue Ma, Hao Zhang, and W.K. Chan ○ <i>Analysis of Road Representations in Search-based Testing of Autonomous Driving Systems</i> Ezequiel Castellano, Ahmet Cetinkaya, and Paolo Arcaini ○ <i>A Tool to Support Vibration Testing Method for Automatic Test Case Generation and Test Result Analysis</i> Kenya Saiki, Shaoying Liu, Hiroyuki Okamura, and Tadashi Dohi ○ <i>Test Benchmarks: Which One Now and in Future?</i> Cyrille Artho, Adam Benali, and Rudolf Ramlar ○ <i>REST API Fuzzing by Coverage Level Guided Blackbox Testing</i> Chung-Hsuan Tsai, Shi-Chun Tsai, and Shih-Kun Huang ○ <i>Evaluating and Improving Static Analysis Tools via Differential Mutation Analysis</i> Alex Groce, Iftekhhar Ahmed, Josselin Feist, Gustavo Grieco, Jiri Gesi, Mehran Meidani, and Qihong Chen ○ <i>On Assessing the Safety of Reinforcement Learning Algorithms using Formal Methods</i> Paulina Stevia Nouwou Mindom, Amin Nikanjam, Foutse Khomh, and John Mullins 	<p>Zoom</p>
<p>21:00 – 22:30 (10 minutes/ paper)</p>	<ul style="list-style-type: none"> • Session IV-B: System and Software Security II Chair: Dongcheng Li <ul style="list-style-type: none"> ○ <i>The Security Risk of Lacking Compiler Protection in WebAssembly</i> Quentin Stiévenart, Coen De Roover, and Mohammad Ghafari ○ <i>Analyzing Structural Security Posture to Evaluate System Design Decisions</i> Joe Frederick Samuel, Jason Jaskolka, and George O. M. Yee ○ <i>Security-aware Multi-user Architecture for IoT</i> Marcus MSB Birgersson, Cyrille Artho, and Musard Balliu ○ <i>Security Header Fields in HTTP Clients</i> Pascal Gadiet, Oscar Nierstrasz, and Mohammad Ghafari ○ <i>Strategies for Reducing Traffic Volume and Security on Smart Grid</i> Chih-Wei Hsu and Sun-Yuan Hsieh ○ <i>DeepDetect: A Practical On-device Android Malware Detector</i> Saurabh Kumar, Debadatta Mishra, Biswabandan Panda, and Sandeep Kumar Shukla ○ <i>Cryptography Vulnerabilities on HackerOne</i> Mohammadreza Hazhirpasand and Mohammad Ghafari ○ <i>Sound Predictive Atomicity Violation Detection</i> Xiaoxue Ma, Imran Ashraf, Hao Zhang, and W.K. Chan ○ <i>EcoAndroid: An Android Studio Plugin for Developing Energy-efficient Java Mobile Applications</i> Ana Ribeiro, Joao F. Ferreira, and Alexandra Mendes 	<p>Zoom</p>

<p>21:00 – 22:30 (10 minutes/ paper)</p>	<ul style="list-style-type: none"> • Session IV-C: Program Debugging and Vulnerability Analysis Chair: Shou-Yu Lee <ul style="list-style-type: none"> ○ <i>Time-traveling Debugging Queries: Faster Program Exploration</i> Maximilian Willembinck, Steven Costiou, Anne Etien, and Stéphane Ducasse ○ <i>Exception-driven Fault Localization for Automated Program Repair</i> Davide Ginelli, Oliviero Riganelli, Daniela Micucci, and Leonardo Mariani ○ <i>Fuzzing Deep Learning Models against Natural Robustness with Filter Coverage</i> Zhengyuan Wei and W.K. Chan ○ <i>Confuzzion: A Java Virtual Machine Fuzzer for Type Confusion Vulnerabilities</i> William Bonnaventure, Ahmed Khanfir, Alexandre Bartel, Mike Papadakis, and Yves Le Traon ○ <i>Vulnerability Analysis of Similar Code</i> Azin Piran, Chepin Chang, and Amin Milani Fard ○ <i>Towards More Reliable Automated Program Repair by Integrating Static Analysis Techniques</i> Omar Bataineh, Anastasiia Grishina, and Leon Moonen ○ <i>A Possibilistic Evolutionary Approach to Handle the Uncertainty of Software Metrics Thresholds in Code Smells Detection</i> Sofien Boutaib, Maha Elarbi, Slim Bechikh, Fabio Palomba, and Lamjed Ben Said ○ <i>SSpinJa: Facilitating Schedulers in Model Checking</i> Nhat-Hoa Tran and Toshiaki Aoki ○ <i>Practical Online Debugging of Spark-like Applications</i> Matteo Marra, Guillermo Polito, and Elisa Gonzalez Boix 	<p>Zoom</p>
<p>14:00 – 15:30</p>	<ul style="list-style-type: none"> • Session IV-D: Reliability Models for Ageing and Degradation with Novel Applications (W) Chair: Zhisheng Ye <ul style="list-style-type: none"> ○ <i>Bayesian Deep-learning-based Health Prognostics of Power Batteries in Fast-charging and Second-use Applications</i> Weiwen Peng, Konglei Ouyang, and Ruomei Zhou ○ <i>Linear System Design with Application in Wireless Sensor Networks</i> Kaiye Gao, Rui Peng, and Xianmei Liu ○ <i>How Reliable Should Military UAVs Be?</i> Qingqing Zhai and Zhisheng Ye ○ <i>Reliability Analysis on Degradation System with Two-Stage Self-Healing Mechanism Under Competing Failure</i> Yan Li and Mengxue Xing ○ <i>A Performance-Based Warranty Policy Design Considering Replacement-Repair Strategy</i> Anshu Dai and Xin Wang 	<p>Zoom</p>
<p>22:30 – 24:10 (10 minutes/ paper)</p>	<ul style="list-style-type: none"> • Session V-A: AI for Software Engineering I Chair: Linghuan Hu <ul style="list-style-type: none"> ○ <i>On the Effects of Data Sampling for Deep Learning on Highly Imbalanced Data from SCADA Power Grid Substation Networks for Intrusion Detection</i> Herbert Mühlburger and Franz Wotawa ○ <i>MINTS: Unsupervised Temporal Specifications Miner</i> Pradeep Mahato and Apurva Narayan ○ <i>Event Stream Classification with Limited Labeled Data for E-commerce Monitoring</i> Alexander Zimin, Igor Mishchenko, and Rebecca Steinert ○ <i>A Novel API Recommendation Approach by using Graph Attention Network</i> Zijie Chen, Tao Zhang, and Xiao Peng 	<p>Zoom</p>

	<ul style="list-style-type: none"> ○ <i>DG-Trans: Automatic Code Summarization with Dynamic Graph Attention-based Transformer</i> Jianwei Zeng, Tao Zhang, and Zhou Xu ○ <i>Applying a Deep-learning Approach to Predict the Quality of Web Services</i> Siao-Fang Lin, Chin-Yu Huang, and Neil C. Fang ○ <i>An Efficient Network Intrusion Detection Model based on Temporal Convolutional Networks</i> Jinfu Chen, Shang Yin, Saihua Cai, Chi Zhang, and Yemin Yin ○ <i>A Protocol-based Intrusion Detection System using Dual Autoencoders</i> Yu-Lun Haung, Ching-Yu Hung, and Hsiao-Te Hu ○ <i>Hunter in the Dark: Discover Anomalous Network Activity using Deep Ensemble Network</i> Shiyi Yang, Hui Guo, and Nour Moustafa ○ <i>Multilevel Traceability Links Establishments Between SOFL Formal Specifications and Java Codes using Multi-dimensional Similarity Measures</i> Jiandong Li, Shaoying Liu, Ai Liu, and Runhe Huang 	
22:30 – 24:10 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session V-B: Reliability and Quality Assurance Chair: Dongcheng Li ○ <i>Automatic Adaptation of Reliability and Performance Trade-offs in Service- and Cloud-based Dynamic Routing Architectures</i> Amirali Amiri, Uwe Zdun, André van Hoorn, and Schahram Dustdar ○ <i>EPR: a Neural Network for Automatic Feature Learning from Code for Defect Prediction</i> Dingbang Fang, Shaoying Liu, and Ai Liu ○ <i>Software Defect Prediction via Multi-channel Convolutional Neural Network</i> Chen Lang, Jidong Li, and Takashi Kobayashi ○ <i>ECPDP : Early Cross-project Defect Prediction</i> Sunjae Kwon, Duksan Ryu, and Jongmoon Baik ○ <i>Heterogeneous Defect Prediction through Correlation-based Selection of Multiple Source Projects and Ensemble Learning</i> Eunseob Kim, Jongmoon Baik, and Duksan Ryu ○ <i>W-SRAT: Wavelet-based Software Reliability Assessment Tool</i> Jingchi Wu, Tadashi Dohi, and Hiroyuki Okamura ○ <i>Reliability of Centralized vs. Parallel Software Models for Composable Storage Systems</i> Mario Blaum and Paul Muench ○ <i>Automated Cause Analysis of Latency Outliers using System-level Dependency Graphs</i> Sneh J. Patel, Brendan Park, Naser Ezzati-Jivan, and Quentin Fournier ○ <i>Predictors of Software Metric Correlation: A Non-parametric Analysis</i> Daniel Afriyie and Yvan Labiche ○ <i>Identification of Compromised IoT Devices: A Combined Approach based on Energy Consumption and Network Traffic Analysis</i> Fehmi Jaafar, Darine Amayed, Amine Barrak, and Mohamed Cheriet 	Zoom
22:30 – 24:10 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session V-C: Empirical Study I Chair: Shou-Yu Lee ○ <i>The Relation between Bug Fix Change Patterns and Change Impact Analysis</i> Ekincan Ufuktepe, Tugkan Tuglular, and Kannappan Palaniappan ○ <i>Mapping Breakpoint Types: An Exploratory Study</i> Eduardo Andreetta Fontana and Fabio Petrillo ○ <i>The Challenge of Reproducible ML: An Empirical Study on The Impact of Bugs</i> Emilio Rivera-Landos, Foutse Khomh, and Amin Nikanjam 	Zoom

	<ul style="list-style-type: none"> ○ <i>Analyzing Software Security-related Size and its Relationship with Vulnerabilities in OSS</i> Elaine Venson, Ting Fung Lam, Bradford Clark, and Barry Boehm ○ <i>Analyzing the Impact of Cyberattacks on Industrial Control Systems using Timed Automata</i> Alvi Jawad and Jason Jaskolka ○ <i>Log Severity Levels Matter: A Multivocal Mapping</i> Eduardo Mendes de Oliveira and Fabio Petrillo ○ <i>A Preliminary Investigation of Developer Profiles based on their Activities and Code Quality: Who does what</i> Cristina Aguilera González, Laia Albors Zumel, Jesús Antoñanzas Acero, Sonia Rabanaque Rodríguez, Valentina Lenarduzzi, and Silverio Martínez-Fernández ○ <i>Understanding the Resilience of Neural Network Ensembles against Faulty Training Data</i> Abraham Chan, Niranjhana Narayanan, Arpan Gujarati, Karthik Pattabiraman, and Sathish Gopalakrishnan ○ <i>On Understanding Contextual Changes of Failures</i> Francisco José Torres Ribeiro, Rui Maranhao, and João Saraiva ○ <i>Phish What You Wish</i> Pascal Gadiant, Pascal Gerig, Oscar Nierstrasz, and Mohammad Ghafari 	
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Wednesday, December 8, 2021		
08:00 – 08:30	Registration	Lobby
08:30 – 09:45 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session: Best Paper Award Session Chair: Zheng Zheng <ul style="list-style-type: none"> ○ <i>Confusion: A Java Virtual Machine Fuzzer for Type Confusion Vulnerabilities</i> William Bonnaventure, Ahmed Khanfir, Alexandre Bartel, Mike Papadakis, and Yves Le Traon ○ <i>ConcSpectre: Be Aware of Forthcoming Malware Hidden in Concurrent Programs</i> Yang Liu, Ming Fan, Ting Liu, Yu Hao, Zisen Xu, Kai Chen, Hao Chen, and Yan Cai ○ <i>SRTEF: Automatic Test Function Recommendation with Scenarios for Implementing Stepwise Test Case</i> Kaiqi Liu, Ji Wu, Haiyan Yang, Qing Sun, and Ruiyuan Wan ○ <i>Understanding the Resilience of Neural Network Ensembles against Faulty Training Data</i> Abraham Chan, Niranjhana Narayanan, Arpan Gujarati, Karthik Pattabiraman, and Sathish Gopalakrishnan ○ <i>MINTS: Unsupervised Temporal Specifications Miner</i> Pradeep Mahato and Apurva Narayan 	Zoom + in-person
09:45 – 10:15	Coffee Break	
10:15 – 11:45 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session VI-A: Quality Assurance Chair: Hezhen Liu <ul style="list-style-type: none"> ○ <i>An Online Model Integration Framework for Server Resource Workload Prediction</i> Tong Xu, Hua Li, and Yunfei Bai ○ <i>ConLAR: Learning to Allocate Resources to Docker Containers under Time-varying Workloads</i> Diwei Chen, Beijun Shen, and Yuting Chen ○ <i>Automatic Identification of High Impact Bug Report by Test Smells of Textual Similar Bug Reports</i> Jianshu Ding, Guisheng Fan, Huiqun Yu, and Zijie Huang ○ <i>A Deep Method Renaming Prediction and Refinement Approach for Java Projects</i> Jiahui Liang, Weiqin Zou, Jingxuan Zhang, Zhiqiu Huang, and Chenxing Sun ○ <i>Estimating the Attack Surface from Residual Vulnerabilities in Open Source Software Supply Chain</i> Dapeng Yan, Yuqing Niu, Kui Liu, Zhe Liu, Zhiming Liu, and Tegawendé F. Bissyandé ○ <i>The Bidirectional Safety Analysis & Validation Framework of System and Software with its Techniques and Applications</i> Haifeng Li, Chang Liu, and Huancheng Su 	In-person
10:15 – 11:45	<ul style="list-style-type: none"> • Session VI-B: Autonomous Vehicle Software (W) Chair: Zijiang Yang <p><i>An Updated extended schedule is listed at the end.</i></p> <ul style="list-style-type: none"> ○ <i>Knowledge Graph-based Network Analysis on the Elements of Autonomous Transportation System</i> Liming Zhang, Shuo Jiang, Ke Huang, Yao Xiao, Linlin You, and Ming Cai ○ <i>TauAud: Test Augmentation of Image Recognition in Autonomous Driving</i> Songtao Zhang, Jiawei Liu, Bintong Xu, and Guandi Liu 	Zoom

	<ul style="list-style-type: none"> ○ <i>Object Removal for Testing Object Detection in Autonomous Vehicle Systems</i> Xiangling Wang, Siqi Yang, Jinyang Shao, Jun Chang, Ge Gao, Ming Li, and Jifeng Xuan ○ <i>Zenoh-based Data Flow Framework for Autonomous Vehicles</i> Gabriele Baldoni, Julien Loudet, Luca Cominardi, Angelo Corsaro, and He Yong ○ <i>Boosting Grey-box Fuzzing for Connected Autonomous Vehicle Systems</i> Lama Moukahal, Mohammad Zulkernine, and Martin Soukup ○ <i>An Empirical Study of Reliability Analysis for Platooning System-of-Systems</i> Sangwon Hyun, Lingjun Liu, Hansu Kim, Esther Cho, and Doo-Hwan Bae ○ <i>DeepGuard: A DeepBillboard Attack Detection Technique against Connected and Autonomous Vehicles</i> Dominic Phillips, Marwa A. Elsayed, and Mohammad Zulkernine 	
11:45 – 13:30	Lunch	
13:30 – 15:00 (15 minutes/ paper)	<ul style="list-style-type: none"> ● Session VII-A: Fault Localization and Debugging Chair: Kun Qiu ○ <i>Towards Repairing Neural Networks Correctly</i> Guoliang Dong, Jun Sun, Xingen Wang, Xinyu Wang, and Ting Dai ○ <i>Improving Quality of Counterexamples in Model Checking via Automated Planning</i> Xu Lu, Cong Tian, Bin Yu, and Zhenhua Duan ○ <i>Can Higher-Order-Mutants Improve the Performance of Mutation-based Fault Localization?</i> Haifeng Wang, Zheng Li, Kun Lou, Xiang Chen, Yong Liu, and Ying Shang ○ <i>AGFL: A Graph Convolutional Neural network-based Method for Fault Localization</i> Xiaolin Ju and Jie Qian ○ <i>Sdft: A PDG-based Summarization for Efficient Dynamic Data Flow Tracking</i> Xiao Kan, Cong Sun, Shen Liu, Yongzhe Huang, Gang Tan, Siqi Ma, and Yumei Zhang ○ <i>CBFL: Improving Software Fault Localization by Analyzing Statement Complexity</i> Haoren Wang, Haochen Jin, Zhanqi Cui, Rongcun Wang, and Xiang Chen 	In-person
13:30 – 15:00 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session VII-B: Industry Report & Reliability and Security for Multiprocessor Interconnection Networks (W) Chair: Limei Lin ○ <i>Shortest Routing Algorithm of the Exchanged Crossed Cube based on Adjacent Subcube Group</i> Xinyang Wang, Renshun Hu, and Qiao Sun ○ <i>Extra (component) Connectivity and Diagnosability of Bubble Sort Networks</i> Hong Zhang, Shuming Zhou, Zhenqin Yu, and Xiaoqing Liu ○ <i>Fast Reliable Routing Selection for Sparse Task Allocation in Mobile Crowdsourcing Systems</i> Yugui Wang, Hao Wang, Zhenjiang Dong, Weibei Fan, and Yuanzheng Zhang ○ <i>The Rg-conditional Connectivity and Diagnosability of Generalized Exchanged X-cubes</i> Yufang Zhang, Ximeng Liu, Xiaoyan Li, Wanling Lin, and Hongbin Zhuang ○ <i>Subgraph Reliability of the Cactus-based Networks</i> Xiaoqing Liu, Shuming Zhou, Jiafei Liu, and Zhengqin Yu 	Zoom

	<ul style="list-style-type: none"> ○ <i>A Novel View: Edge Isoperimetric Methods and Reliability Evaluation of Several Kinds of Conditional Edge-connectivity of Interconnection Networks</i> Mingzu Zhang, Zhaoxia Tian, and Lianzhu Zhang ○ <i>Applications of Cucumber on Automated Functional Simulation Testing</i> Yan Wang, Lijuan Jia, Hongjian Cao, and Ziqi Jing ○ <i>SecVerifier: A Practical Memory-security Verifier</i> Lu Zhao, Lingyun Xu, Guojing Luo, Xiang Long, Jinhai Gong, and Xiaobo Sang 	
15:00 – 15:30	Coffee Break	
15:30 – 17:00 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session VIII-A: Software Reliability and Defect Analysis Chair: Fangyun Qin ○ <i>Multiple Error Types Software Belief Reliability Growth Model based on Uncertain Differential Equation</i> Zhe Liu and Rui Kang ○ <i>A Simulation based Intelligent Analysis Framework of Aircraft Reliability, Resilience and Vulnerability</i> Qi Yao, Fuping Zeng, Yizhuo Zhang, Minghao Yang, Zhiyu Duan, and Shunkun Yang ○ <i>Dynamic Detection of AsyncTask related Defects</i> Qing Liu, Linjie Pan, Baoquan Cui, Jun Yan, and Jian Zhang ○ <i>Platform Software Reliability for Cloud Service Continuity – Challenges and Opportunities</i> Ning Luo and Yue Xiong ○ <i>Reliability-redundancy Allocation Problem Considering Imperfect Fault Coverage</i> Zixiang Wang, Siwei Zhou, Dongdong Zhao, and Jianwen Xiang ○ <i>Heterogeneous Defect Prediction through Joint Metric Selection and Matching</i> Haowen Chen and Xiaoyuan Jing 	In-person
15:30 – 17:00 (10 minutes/ paper)	<ul style="list-style-type: none"> • Session VIII-B: Fault Localization and Repair for AI Systems & Safety and Security in Cyber-Physical Systems (W) Chair: Wei Zheng ○ <i>Study on Automated Change Impact Domain Analysis in Regression Testing</i> Jing Guo ○ <i>Towards Optimal Resources Allocation in Cloud Manufacturing: New Task Decomposition Strategy and Service Composition Model</i> Zhou Fang, Qilin Wu, and Dashuai Guan ○ <i>Influencing Factors Analysis and Evaluation for Undergraduate Programming Ability</i> Jing Wang and Yong Wang ○ <i>Research on Feature Optimization Scheme based on Data Feature Enhancement</i> Zhi Deng, Zhao Shi, Zhenxin Wang, and Tao Liu ○ <i>Combinational Metamorphic Testing for Deep Learning based Target Detection CPS Systems</i> Siyu Ma, Chi Hu, Fei Deng, Yuyao Zhou, Xiaohu Shang, Linbo Wu, Wei Zou, Chunlei Li, Wansheng Yang, and Fei Ren ○ <i>Software Test Data Reuse based on Domain Ontology Construction</i> Chi Hu, Siyou Ma, Wansheng Yang, Zhe Sun, Fei Deng, and Yonghui Yang ○ <i>An Interactive Ranking Algorithm for Program Static Analysis</i> Liang Sun, Shaoxian Shu, and Liuying Li ○ <i>A Hybrid Automata based on Event Algebra for CPS Modelling</i> Mingfu Tuo, Jian Zhao, HongMei Zhang, and Yongmei Zhao 	Zoom

	<ul style="list-style-type: none"> ◦ <i>Extend RChecker for Accurate Analysis of Real Embedded Projects</i> Ranjie Ding, Wenfeng Lin, Xiang Du, and Liangze Yin 	
18:00 –	Conference Banquet	

Additional Online Sessions		
14:00 – 15:30 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session IX-A: AI for Software Engineering II Chair: Linghuan Hu ◦ <i>A Novel Tree-based Neural Network for Android Code Smells Detection</i> Jing Yu, Chenguang Mao, and Xiaojun Ye ◦ <i>Generating Adversarial Examples of Source Code Classification Models via Q-Learning-based Markov Decision Process</i> Junfeng Tian, Chenxin Wang, Zhen Li, and Yu Wen ◦ <i>Recovering Semantic Traceability between Requirements and Source Code using Feature Representation Techniques</i> Meng Zhang, Chuanqi Tao, Hongjing Guo, and Zhiqiu Huang ◦ <i>GrasP: Graph-to-Sequence Learning for Automated Program Repair</i> Ben Tang, Bin Li, Lili Bo, Xiaoxue Wu, Sicong Cao, and Xiaobing Sun ◦ <i>ACLM: Software Aging Prediction of Virtual Machine Monitor based on Attention Mechanism of CNN-LSTM Model</i> Xueyong Tan and Jing Liu 	Zoom
21:00 – 22:30	<ul style="list-style-type: none"> • Session IX-B: System Testing and Validation (W) Chair: Axel Rennoch ◦ <i>Quality Assurance of Micro-Services - When to Trust your Micro-service Test Results?</i> Theofanis Vassiliou-Gioles ◦ <i>Attack-based Automation of Security Testing for IoT Applications with Genetic Algorithms and Fuzzing</i> Steffen Lüdtke, Roman Kraus, Ramon Barakat, and Martin A. Schneider ◦ <i>Research on Generation Algorithm of SOA-oriented Integration Test Order</i> Bingqing Zhang, Gaolei Yi, Yichen Wang, and Fei Qi ◦ <i>IoTAC - An Innovative Approach towards Security Assurance of IoT Architecture and Services</i> Ramon Barakat, Faruk Catal, Sascha Hackel, Axel Rennoch, and Martin A. Schneider ◦ <i>An Ontology-based Approach for Automatic Specification, Verification, and Validation of Software Security Requirements: Preliminary Results</i> Dimitrios Tsoukalas, Miltiadis Siavvas, Maria Mathioudaki, and Dionysios Kehagias 	Zoom
13:00 – 16:00 (10 minutes/ paper)	<ul style="list-style-type: none"> • Session IX-C & X-C: Fault Prediction, Prevention, Detection, and Reliability Enhancement (W) • Chair: Shaoying Liu ◦ <i>AI Extension of Square Data Quality Model</i> Shin Nakajima and Takako Nakatani ◦ <i>A System for Evaluating the Robustness of Embedded Intelligent Chips and Models</i> Chenguang Wang, Zhixiao Sun, Qing Luo, Xinyu Wang, Tao Zhang, and Depeng Gao ◦ <i>Fault Localization and Test Oracle Generation based on the Mutual Pattern of Discrete Path Variables</i> Chunyan Ma, Jing Chen, and Zheng Chang 	Zoom

	<ul style="list-style-type: none"> ○ <i>Investigating Trend/Cyclic/Clustering Decomposition in Software Fault Detection</i> Xuanqing Chen, Tadashi Dohi, and Hiroyuki Okamura ○ <i>Bug Characteristics in Probabilistic Programming Systems: A Comprehensive Study</i> Manh Duc Le, Haibo Yu, and Jianjun Zhao ○ <i>Formal Specification and Model Checking of an Autonomous Vehicle Merging Protocol</i> Minxuan Liu, Dang Duy Bui, Duong Dinh Tran, and Kazuhiro Ogata ○ <i>A Framework for Modeling and Detecting Security Vulnerabilities in Human-machine Pair Programming</i> Pingyan Wang, Shaoying Liu, and Ai Liu ○ <i>DevFemOps: Enhancing Maintainability based on Microservices using Formal Engineering Methods</i> Tetsuo Fukuzaki and Shaoying Liu ○ <i>Testing Program Segments to Detect Software Faults during Programming</i> Lei Rao, Yingshao Liu, and Ai Liu ○ <i>Applying Cognitive Complexity to Checklist-based Human-machine Pair Inspection</i> Yujun Dai and Shaoying Liu ○ <i>TBEM: Testing-based GPU-memory Consumption Estimation for Deep Learning</i> Haiyi Liu, Shaoying Liu, Ai Liu, and Chenglong Wen 	
21:00 – 22:30 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session IX-D: Dependability Testing & Data Quality Engineering & Prognostics and Health Management (W) Chair: Dongcheng Li ○ <i>VrFy: Verification of Formal Requirements using Generic Traces</i> Jorrit J. Olthuis, Rodolfo Jordão, Francesco Robino, and Sina Borrami ○ <i>An Evaluation of the Wuality of Snswers to Scademic Questions relating to COVID-19 on Academic Social Q&A Platforms</i> Lei Li, Shujun Liu, and Xinran Li ○ <i>Quality of Data for Machine Learning</i> Antti Kariluoto, Arto Pärnänen, Joni Kultanen, and Jukka Soininen ○ <i>Evaluation of Dataset Distribution and Label Quality for Autonomous Driving System</i> Sijia Li, Yong Fan, Yue Ma, and Ya Pan ○ <i>Unsupervised Anomaly Detection Approach for Multivariate Time Series</i> Yuanlin Zhou, Yingxuan Song, and Mideng Qian ○ <i>Threshold-based Analysis of The Code Quality of High-performance Computing Software Packages</i> Bosco Ndemeye, Shahid Hussain, and Boyana Norris ○ <i>Parameter Estimation of Change Point Models based on the Discrete and Continuous Sampler</i> Xiaopeng Xu, Xiaochun Zhang, and Chuancai Liu ○ <i>HSV Prediction by Okun's Law based on Big Data</i> Yinwei Liu and Lin Zou 	Zoom
22:30 – 24:00 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session X-A: Blockchain and Smart Contracts & Trustworthy IoT (W) Chair: Haiping Xu & Tapio Frantti ○ <i>Modeling and Verification of CKB Consensus Protocol in Coq</i> Xiaokun Luan and Meng Sun ○ <i>Hierarchical Cloud-based Consortium Blockchains for Healthcare Data Storage</i> Alvin Thamrin and Haiping Xu 	Zoom

	<ul style="list-style-type: none"> ○ <i>Machine-learning Approach using Solidity Bytecode for Smart-contract Honey-pot Detection in the Ethereum</i> Kazuki Hara, Takeshi Takahashi, Motoya Ishimaki, and Kazumasa Omote ○ <i>Support for the Safety of EVM Bytecode via Function-call Interceptor</i> Jisoo Kim and Eun-Sun Cho ○ <i>Can Solana's High Throughput be an Enabler for IoT?</i> Fintan Duffy, Malika Bendechache, and Irina Tal ○ <i>Design and Specification of a Blockchain-based P2P Energy Trading Platform</i> Denis Rangelov, Budankailu Sameer Kumar Subudhi, Philipp Lämmel, Michell Boerger, Nikolay Tcholtchev, and Jaffer Khan ○ <i>CERCoin: Carbon Tracking Enabling Blockchain System for Electric Vehicles</i> Liam Waters and Irina Tal ○ <i>Curious SDN for Network Attack Mitigation</i> Mikhail Zolotukhin, Timo Hämäläinen, and Riku Immonen ○ <i>Security Risk Assessment Methodologies in the Internet of Things: Survey and Taxonomy</i> Imad Yassine, Talal Halabi, and Martine Bellaiche 	
14:00 – 15:30 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session X-B: Cyber Forensics, Security, and E-discovery & Testing and Verification of Programmable Chips (W) Chair: Jigang Liu ○ <i>Application of Risk Assessment Method to Local Government Security Models</i> Ryoichi Sasaki ○ <i>Reliability-disguised Attacks on Social Network to Accelerate Fake News Dissemination</i> Kento Yoshikawa, Takumi Awa, Risa Kusano, Masatsugu Ichino, and Hiroshi Yoshiura ○ <i>Implementation of Extended FIDO2 Authenticator using Attribute-based Signatures</i> Yuto Ookawa, Shuji Yamaguchi, Hidehito Gomi, and Tetsutaro Uehara ○ <i>Cyber-security Incident Analysis by Causal Analysis using System Theory (CAST)</i> Tomoko Kaneko, Nobukazu Yoshioka, and Ryoichi Sasaki ○ <i>Formalising UPTANE in CSP for Security Testing</i> Rhys D. Kirk, Jeremy Bryans, Hoang Nga Nguyen, Siraj Shaikh, David Evans, and David Price ○ <i>Application Research of Formal Verification in Aerospace FPGA</i> Shiyu Liu, Dongfang Li, Wei Shen, Zhihao Wang, Guang Yang, and Xiaojing Song ○ <i>(Semi) Automatic Assertion Generation from Controlled Chinese Natural Language: A Practice in Aerospace Industry</i> Shiyu Liu and Dongfang Li ○ <i>Modeling and Simulation of Social E-commerce User Behavior based on Social E-commerce Simulator</i> Junjie Lv, Linyu Li, Qiuchen Wu, and Chuan Zhao ○ <i>An Approach for Detecting Tourists Satisfaction based on Physical Data and Internet Data</i> Chi Zhang and Qinyun Liu 	Zoom
14:00 – 16:00 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session X-D: Predictive Maintenance (W) Chair: Yanfu Li ○ <i>A Clustering-based Framework for Highly Imbalanced Fault Detection with the Applications on High-speed Trains</i> Min Qian and Yanfu Li 	Zoom

	<ul style="list-style-type: none"> ○ <i>A Gaussian Process Approach for Predictive Maintenance</i> Junqi Zeng, Zhenglin Liang, Chunhui Guo, Minyuan Song, and Zongqi Xue ○ <i>Adversarial Attack for Deep-learning-based Fault Diagnosis Models</i> Yipei Ge, Huan Wang, and Zhiliang Liu ○ <i>Modeling and Prediction for Networks with Node Dependence</i> Wanshan Li and Chen Zhang ○ <i>Maintenance Policies for balanced Systems Subject to Degradation</i> Ziyu Wang and Xiujie Zhao ○ <i>Base Station Network Alarm Streams Modeling and Prediction based on Cox Proportional Hazard Model and Copula</i> Zongqi Xue, Zhenglin Liang, Minyuan Song, Chunhui Guo, and Junqi Zeng ○ <i>A Predictive Hidden Semi-markov Model for Bridges Subject to Chloride-induced Deterioration</i> Chunhui Guo, Zhenglin Liang, Junqi Zeng, Minyuan Song, and Zongqi Xue ○ <i>Remaining Useful Life Prediction for Multi-state Stochastic Deterioration Assets based on Phase-type Distributions</i> Minyuan Song, Zhenglin Liang, Zongqi Xue, Chunhui Guo, and Junqi Zeng ○ <i>An Economic Evaluation Model of Predictive Maintenance Technology for Lithium-Ion Batteries</i> Xuan Liu and Huixing Meng ○ <i>Jump Point Detection with Local Linear Quantile Regression for Non-stationary Time Series</i> Fangwei Wu and Weichi Wu ○ <i>Economic Design of a Linear Consecutively Connected System Considering Cost and Signal Loss</i> Kaiye Gao, Rui Peng, Xiangbin Yan, and Liudong Xing 	
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Thursday, December 9, 2021		
08:00 – 08:30	Registration	Lobby
08:30 – 09:45 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session: IEEE Transactions on Reliability Session Chair: Tao Zhang <ul style="list-style-type: none"> ○ <i>Event Stream Classification with Limited Labeled Data for E-commerce Monitoring</i> Alexander Zimin, Igor Mishchenko, and Rebecca Steinert ○ <i>An Effective Crowdsourced Test Report Clustering Model based on Sentence Embedding</i> Hao Chen, Song Huang, Yuchan Liu, Run Luo, and Yifei Xie ○ <i>Can Higher-Order-Mutants Improve the Performance of Mutation-based Fault Localization?</i> Haifeng Wang, Zheng Li, Kun Lou, Xiang Chen, Yong Liu, and Ying Shang ○ <i>Automatic Adaptation of Reliability and Performance Trade-offs in Service- and Cloud-based Dynamic Routing Architectures</i> Amirali Amiri, Uwe Zdun, André van Hoorn, and Schahram Dustdar ○ <i>The Relation between Bug Fix Change Patterns and Change Impact Analysis</i> Ekinan Ufuktepe, Tugkan Tuglular, and Kannappan Palaniappan 	Zoom + In-person
09:45 – 10:15	Coffee Break	
10:15 – 11:45 (15 minutes/ paper)	<ul style="list-style-type: none"> • Session XI-A: Empirical Study II Chair: Hanyu Pei <ul style="list-style-type: none"> ○ <i>Are the Scala Checks Effective? Evaluating Checks with Multi-version Projects</i> Xin Zhang, Jiwei Yan, Baoquan Cui, Jun Yan, and Jian Zhang ○ <i>Evaluating Code Summarization with Improved Correlation with Human Assessment</i> Juanjuan Shen, Yu Zhou, Yongchao Wang, Xiang Chen, Tingting Han, and Taolue Chen ○ <i>Accept or Not? An Empirical Study on Analyzing the Factors that Affect the Outcomes of Modern Code Review?</i> Dandan Wang, Qing Wang, Junjie Wang, and Lin Shi ○ <i>Research on Accurate Mining of Government Data based on E-OEM Model</i> Kejin Sa, Haibo Liu, Chenggang Wang, Yu Bai, and Dapeng Lang ○ <i>SRTEF: Automatic Test Function Recommendation with Scenarios for Implementing Stepwise Test Case</i> Kaiqi Liu, Ji Wu, Haiyan Yang, Qing Sun, and Ruiyuan Wan ○ <i>Multi-agent Automata and Its Application to LDLK Satisfiability Checking</i> Ya Gao, Wenhui Zhang, and Xueyang Zhu 	In-person
10:15 – 11:45 (10 minutes/ paper)	<ul style="list-style-type: none"> • Session XI-B: Software Engineering and Knowledge Management (W) Chair: Xingya Wang <ul style="list-style-type: none"> ○ <i>VSBFL: Variable Value Sequence based Fault Localization for Novice Programs</i> Zheng Li, Jitao Shen, Yonghao Wu, Yong Liu, and Xiang Chen ○ <i>Automated Repair of Java Programs with Random Search via Code Similarity</i> Heling Cao, Fangzheng Liu, Shijian Shu, Chuyong He, and Miaolei Deng ○ <i>The Trustworthiness Measurement Model of Component-based Software based on the Subjective and Objective Weight Allocation Method</i> Xiaotong Gao, Yanfang Ma, and Wei Zhou 	Zoom

	<ul style="list-style-type: none"> ○ <i>Trustworthiness Derivation Tree: A Model of Evidence-based Software Trustworthiness</i> Yuxin Deng, Zezhong Chen, Bifei Mao, Zhizhang Liang, Qiushi Lin, and Jinghui Li ○ <i>MQP: Augmentation Method of Test Data for Path Coverage based on K-means Clustering</i> Song Huang, Chunyan Xia, Yan Zhang, Tingting Huo, Jinfeng Li, and Wei Xie 	
11:45 – 13:30	Lunch	
13:30 – 15:00 (15 minutes/ paper)	<ul style="list-style-type: none"> ● Session XII-A: Software Testing II Chair: Kun Qiu ○ <i>An Empirical Study on Test Prioritization Metrics for Deep Neural Networks</i> Ying Shi, Beibei Yin, and Zheng Zheng ○ <i>Historical Information Stability based Reward for Reinforcement Learning in Continuous Integration Testing</i> Tiange Cao, Zheng Li, Ruilian Zhao, and Yang Yang ○ <i>HARS: Heuristic-enhanced Adaptive Randomized Scheduling for Concurrency Testing</i> Yanzhou Mu, Zan Wang, Shuang Liu, Jun Sun, Junjie Chen, and Xiang Chen ○ <i>Target Code-coverage and Efficiency in APP Automatic Compatibility Testing based on Code Analysis</i> Sen yang, Yifan Huang, Song Huang, Zhanwei Hui, and Changyou Zheng ○ <i>MMFC-ART: a Fixed-size-Candidate-set Adaptive Random Testing Approach based on the Modified Metric-memory Tree</i> Jinfu Chen, Yiming Wu, Chengying Mao, Tsong Yueh Chen, Saihua Cai, and Haibo Chen ○ <i>A Framework for Progressive Regression Testing PLC Programs</i> Zeyu Lu and Zhanquan Guo 	In-person
13:30 – 15:00 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session XII-B: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid I (W) Chair: Yun Lin ○ <i>Algorithm Analysis of Sparse Matrix Multiplication</i> Hui Ren, Hongwei Ma, Jian Kang, Yang Liu, Lu Wang, and Xiaogang Zheng ○ <i>Traffic Matrix Estimation based on Incomplete Network Link Loads Measurement</i> Qian Chen and Changda Wang ○ <i>Side Information-aided Handover Strategy for Air-Ground Integrated Vehicular Networks</i> Yuzhi Zhou, Jinlong Sun, Jie Yang, Guan Gui, Haris Gacanin, and Fumiyuki Adachi ○ <i>PSO-LSSVM Model-based Waypoint Traffic Prediction Study</i> Hongbo Zhang, Ying Yang, Chenghao Huang, Zhisen Wang, Zhe Cui, and Lianghuang He ○ <i>Research on Airspace Security Risk Assessment Technology based on Knowledge Graph</i> Ying Yang ○ <i>Research on Fast Generation and Simulation Technology of Air Traffic Flow in Control Sector</i> Chenghao Huang, Hongbo Zhang, Ying Yang, Lianghuang He, and Qiuqing Luo 	Zoom

	<ul style="list-style-type: none"> ○ <i>GST-Net: A GIS-based Hybrid Prediction Model for Shared Bike Traffic Flow</i> Weicheng Zheng, Hao Deng, and Fengxia Han ○ <i>An Ontology based Resource Description Model for Blockchain-IoT</i> Xing Wu, Fengxia Han, and Hao Deng ○ <i>Summary of Fault Diagnosis Technology in Smart Grid</i> Yingxin Wang, Chuankun Li, and Liang Kou 	
15:30 – 17:00 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session XIII-A: Software Defect Prediction and Analysis & Reliability and Resilience of Complex Systems (W) Chair: Zhao Li ○ <i>Cascading Failure of Complex Networks based on Load Redistribution and its Interaction with Epidemics</i> Ziyang Jin, Satish Venkata Siva Ukkusuri, and Ning Wang ○ <i>Component Reassignment of Two Balanced Linear Consecutive K-out-of-n Systems</i> Qiyu Wang, Chenyang Ma, Jiangbin Zhao, and Zhiqiang Cai ○ <i>Comparison Study of Two Recovery Strategies for UAVs Network with Cascading Failures</i> Wenjin Zhu, Tianshuang Meng, and Luohaoji Wang ○ <i>Bayesian Importance for K-Terminal Network under a Probability Distribution of Edge Failures</i> Yongjun Du ○ <i>Text Classification Method based On Semi-supervised Transfer Learning</i> Xiaosheng Yu, Hehuan Zhang, and Jing Li ○ <i>Electronic Medical Record Classification Method based on LSTM of Text Word Features Dimensionality Reduction</i> Xiaosheng Yu, Sheng Shen, Peng Chen, and Zhongtu Liu ○ <i>A Cross-project Aging-related Bug Prediction Approach based on Joint Probability Domain Adaptation and K-means SMOTE</i> Dimeng Li, Mengting Liang, Bin Xu, Xiao Yu, Junwei Zhou, and Jianwen Xiang ○ <i>Learning to Rank Software Modules for Effort-aware Defect Prediction</i> Jiqing Rao, Xiao Yu, Chen Zhang, Junwei Zhou, and Jianwen Xiang ○ <i>Question Classification Method in Disease Question Answer System based on MCDPLSTM</i> Xiaosheng Yu, Ruxin Gong, and Peng Chen 	Zoom
15:30 – 17:10 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session XIII-B: Security, Reliability, and Resilience in Wireless Sensor Networks and Smart Grid II (W) Chair: Yun Lin ○ <i>An Electric Power Forecasting Method based on Dual Time Series Attention Mechanism Neural Network Structure</i> Xianghao Zhan, Lei Feng, and Liang Kou ○ <i>An Improved Mean Shift Clustering Algorithm for LFA Detection</i> Wenyue Sun and Changda Wang ○ <i>Resource Allocation for UAV-assisted MIMO-NOMA Wireless Caching Networks</i> Yue Yin, Miao Liu, Guan Gui, and Hikmet Sari ○ <i>LoRa-based Fire Monitoring System</i> Bin Wang, Ziyang Jiang, Yang Liu, Yuzhi Zhang, and Ke Xu ○ <i>Local Filter-based Sequential and Distributed Fusion State Estimation for Nonlinear Multi-sensor Systems with Asynchronously Correlated Noises</i> Kun Yang, Yao Zhang, Yang Liu, Taojun Liu, and Kai Zhao ○ <i>Prediction of Overlying Rock Deformation based on LSTM in Optical Fiber Sensor Monitoring</i> Zhong Tian, Liwen Ji, Taoliu Xi, and Dingding Zhang 	Zoom

	<ul style="list-style-type: none"> ○ <i>A Tobit Traceless Kalman Filter Technique TUKF: Handle Truncated Data</i> Bo Su, Qingyue Yang, Bo Bai, Zeshan Yang, Lei Zhu, and Shanliangkun He ○ <i>Joint Vehicle Scheduling and Power Allocation for V2X Communications</i> Juzhen Wang ○ <i>Research on Privacy Protection Technology for Data Publishing</i> Lianwei Qu, Jing Yang, Xueyun Yan, Lixin Ma, Qixuan Yang, and Yaxin Han ○ <i>Research on Mainstream Database Security Analysis Technology of Big Data Platform</i> Kangkang Dou, Yong Wang, Qixuan Yang, Yaxin Han, and Zhao Yang 	
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Additional Online Sessions

<p>11:00 – 12:30 (10 minutes/ paper)</p>	<ul style="list-style-type: none"> • Session XIV-A: Intelligent Evolutionary Computation (W) Chair: Dongcheng Li <ul style="list-style-type: none"> ○ <i>Static Routing-based Delay Analysis for Low-Orbiting Satellite Networks</i> Shiyong Xu, Zhao Chen, Xueze Zhang, Jikai Bian, and Ruo Zhai ○ <i>Study on the Connection Rate of LEO Communication Satellite</i> Shan Zhang, Zhao Chen, Wendi Sun, Xiaolu Xiao, and Yi Ke ○ <i>Machine Learning-based Mental Health Analysis and Early Warning for College Student</i> Yutao Sun, Hui Li, Haifeng Wu, and Yuan Fu ○ <i>Multi-Satellite Mission Planning based on Multi-population Cooperative Parallel Evolutionary Algorithm</i> Hui Li, Man Zhao, Chenglu Zhang, and Dengfeng Mo ○ <i>Stopping Criteria for Satellite Imaging based on Improved Differential Evolution Algorithm</i> Chong Chen, Dongcheng Li, Hu Li, Jie Zhang, and Zhiming Wu ○ <i>Satellite Imaging Task Planning using Particle Swarm Optimization and Tabu Search</i> Qianzhou He, Yuan Tian, Dongcheng Li, Wenfeng Liu, and Mingyong Jian ○ <i>An Improved Local Search Algorithm with Pruning for Satellite Data Transmission Scheduling Problem</i> Man Zhao, Qianzhou He, Shenglong Li, and Min Ren ○ <i>Multi-Radar Cooperative Task Planning using NSGA-II Algorithm</i> Xiang Liu, Chao Zhang, Yanjun Cao, Li Han, and Zhiming Wu 	<p>Zoom</p>
<p>21:00 – 23:00 (10 minutes/ paper)</p>	<ul style="list-style-type: none"> • Session XIV-B: Fast Abstract Session Chair: Linghuan Hu <ul style="list-style-type: none"> ○ <i>Mining Event Logic Graph from Open Q&A Site for Automated Program Repair</i> Chuanjia Hou, Xiaotong Liu, Hao Yu, Tong Jia, and Ying Li ○ <i>Testing Autonomous Driving System based on Scenic</i> Zhanqi Cui ○ <i>Selective Symbolization based Efficient Symbolic Execution</i> Yang Liu, Guofeng Zhang, Zhenbang Chen, and Ziqi Shuai ○ <i>Transformer for High-speed Train Wheel Wear Prediction with Multiplex Local-global Temporal Fusion</i> Huan Wang, Tianli Men, and Yanfu Li ○ <i>A Testing Method for Object-oriented Program based on Adaptive Random Testing with Variable Probability</i> Tianxiang Lv, Jinfu Chen, Saihua Cai, Qihao Bao, Haibo Chen, and Chi Zhang ○ <i>A Proposal for Model-based Reliability-oriented System Design in Industry</i> Jose Luis de la Vara and Juan Manuel Morote ○ <i>Towards Better Coverage of Dataset with Software Product Line Engineering</i> Lei Shi, Masanari Kondo, Naoyasu Ubayashi, and Yasutaka Kamei ○ <i>Detecting Attack Surface with Full-system Taint Analysis</i> Natalia Fursova, Pavel Dovgalyuk, Ivan Vasiliev, Maria Klimushenkova, and Danila Egorov ○ <i>Introducing a Multi-layered Model-based Design Approach towards Safety-Security Co-engineering</i> Megha Quamara, Gabriel Pedroza, and Brahim Hamid 	<p>Zoom</p>

	<ul style="list-style-type: none"> ○ <i>MDD4CER: Efficient Complex Event Recognition with Multiple-value Decision Diagram</i> Ruiqi Luo, Bangchao Wang, and Xian Zhong ○ <i>Blockchain Smart Legal Contract with Dual-model Broadcast Encryption for Protecting Transaction Privacy</i> Hongjian Yin, Yan Zhu, Guanglai Guo, and Cheng-Chung William Chu 	
21:00 – 22:30 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session XIV-C: Software Engineering and Big Data (W) Chair: Yi Yang ○ <i>A New Model for Mining Superior Uploaders on Bilibili</i> Liu Pan, Hao Chen, Sihao Huang, Lian Zeng, and Cong Luo ○ <i>Spatio-temporal Knowledge Graph for Meteorological Risk Analysis</i> Jiahui Chen, Shaobo Zhong, Xingtong Ge, Weichao Li, Hanjiang Zhu, and Ling Peng ○ <i>A Graph based Calligraphy Similarity Compare Model</i> Guoyang Pan, Yi Yang, Meng Li, Xueyang Hu, Weixing Huang, Jian Wang, and Yun Wang ○ <i>Reflect on the Application of Human-machine Cooperation Technology in Film Art Creation in Virtual Production Era</i> Yihang Bo ○ <i>Exploring Exposure Bias in Recommender Systems from Causality Perspective</i> Yi Yang, Meng Li, Xueyang Hu, Guoyang Pan, Weixing Huang, and Jian Wang ○ <i>Visualizing Human Interactions in an Workspace Setting and Maintaining Privacy</i> Teemu A. Autto, Joni M. Kultanen, Joonas T. Uusnaekki, Mikael T. Ovaska, Antti Kariluoto, Joonas E. Himmanen, Tapio Frantti, Mikko Virtaneva, Pasi Kaitila, and Pekka Abrahamsson ○ <i>An Efficient Network Traffic Classification Method based on Combined Feature Dimensionality Reduction</i> Jinfu Chen, Ye Geng, Saihua Cai, Songling Qin, Haibo Chen, and Shang Yin ○ <i>Assume, Capture, Verify, Establish: Ingredients for Scalable Verification</i> Hessamaldin Mohammadi, Wided Ghardallou, and Ali Mili 	Zoom
22:30 – 24:00 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session XV-A: Quality, Reliability, and Security I (W) Chair: Dongcheng Li ○ <i>Heterogeneous Modeling and Testing of Software Product Lines</i> Fevzi Belli, Tugkan Tuglular, and Ekinan Ufuktepe ○ <i>Modeling Cyber Physical Systems with Learning Enabled Components using Hybrid Predicate Transition Nets</i> Xudong He ○ <i>The Energy Footprint of Blockchain Consensus Mechanisms Beyond Proof-of-Work</i> Moritz Platt, Johannes Sedlmeir, Daniel Platt, Ulrich Gallersdörfer, Jiahua Xu, Paolo Tasca, Nikhil Vadgama, and Juan Ignacio Ibañez ○ <i>Blockchain-based Model for Consent Management and Data Transparency Assurance</i> Fehmi Jaafar, Mohamed Cheriet, Darine Ameyed, and Francis Charette-Migneault ○ <i>Systemization of Vulnerability Information by Ontology for Impact Analysis</i> Takumi Tsutsui, Yoshiaki Shiraishi, and Masakatu Morii ○ <i>Contextual Profiling of Stack Overflow Java Code Security Vulnerabilities: Initial Insights from a Pilot Study</i> Sherlock Licorish and Thushika Nishatharan 	Zoom

	<ul style="list-style-type: none"> ○ <i>Exploring Students' Sensemaking of Test Case Design. An Initial Study</i> Niels Doorn, Tanja E.J. Vos, Beatriz Marín, Harrie Passier, Lex Bijlsma, and Silvio Cacace 	
14:00 – 16:00 (10 minutes/ paper)	<ul style="list-style-type: none"> ● Session XV-B: Quality, Reliability, and Security II (W) Chair: Linghuan Hu ○ <i>A Code Clone Detection Algorithm based on Graph Convolution Network with AST Tree Edge</i> Zhicheng Lu, Ruochen Li, Huamiao Hu, and Wenan Zhou ○ <i>Stock Prediction with Stacked-LSTM Neural Networks</i> Xiaochun Zhang, Chen Li, Kuanlin Chen, and Hongji Yang ○ <i>Let's Supercharge the Workflows: An Empirical Study of GitHub Actions</i> Tingting Chen, Yang Zhang, Shu Chen, Tao Wang, and Yiwen Wu ○ <i>A Large-scale Study on Vulnerabilities in Linux using Vtopia</i> Yanjie Shao, Yanjun Wu, Mutian Yang, Jingzheng Wu, and Chen Zhao ○ <i>Multiscale Empirical Analysis of Software Network Evolution</i> Xiaodong Gou, Long Fan, Li Zhao, Qi Shao, Chong Bian, and Shunkun Yang ○ <i>The Influence of Handwriting and Word-processing on Creativity in the Fiction Production: A Case Study of Fay Weldon's Fictions</i> Hongji Yang and Tian Liu ○ <i>Automatic Bug Triage using Hierarchical Attention Networks</i> Huoliang He and Shunkun Yang ○ <i>An Adaptive Random Test Method based on Variable Probability Density Function with Particle Swarm Optimization</i> Shengran Wang, Jinfu Chen, Saihua Cai, Jiaxiang Xi, Haibo Chen, and Jingyi Chen ○ <i>An Empirical Study on Vulnerability Detection for Source Code Software based on Deep Learning</i> Jinfu Chen, Wei Lin, Saihua Cai, and Haibo Chen 	Zoom

AVS 2021 Detailed Schedule

Zoom Link: <https://us02web.zoom.us/j/84901653673?pwd=Y2htMkZpWFhhaZFPY3VEK1Nvcmxodz09>

Meeting ID: 849 0165 3673

Passcode: QRS2021

Wednesday, December 8, 2021		
08:00 – 08:30	Registration	Lobby
09:00 – 09:45	<ul style="list-style-type: none"> • Keynote Speech I Chair: Zijiang Yang <i>New cars bring both challenges and opportunities</i> Frank (Sanchu) Han Chief Expert, Chief Software Architect Chongqing Changan Automobile Co., Ltd Chief Technology Officer Changan Automobile Software Technology Co.,Ltd 	Zoom
09:45 – 10:15	Coffee Break	
10:15 – 11:45	<ul style="list-style-type: none"> • Session VI-B: Autonomous Vehicle Software (W) Chair: Zijiang Yang <ul style="list-style-type: none"> ○ <i>Knowledge Graph-based Network Analysis on the Elements of Autonomous Transportation System</i> Liming Zhang, Shuo Jiang, Ke Huang, Yao Xiao, Linlin You, and Ming Cai ○ <i>TauAud: Test Augmentation of Image Recognition in Autonomous Driving</i> Songtao Zhang, Jiawei Liu, Bintong Xu, and Guandi Liu ○ <i>Object Removal for Testing Object Detection in Autonomous Vehicle Systems</i> Xiangling Wang, Siqi Yang, Jinyang Shao, Jun Chang, Ge Gao, Ming Li, and Jifeng Xuan ○ <i>Zenoh-based Data Flow Framework for Autonomous Vehicles</i> Gabriele Baldoni, Julien Loudet, Luca Cominardi, Angelo Corsaro, and He Yong ○ <i>Boosting Grey-box Fuzzing for Connected Autonomous Vehicle Systems</i> Lama Moukahal, Mohammad Zulkernine, and Martin Soukup ○ <i>An Empirical Study of Reliability Analysis for Platooning System-of-Systems</i> Sangwon Hyun, Lingjun Liu, Hansu Kim, Esther Cho, and Doo-Hwan Bae ○ <i>DeepGuard: A Deep Billboard Attack Detection Technique against Connected and Autonomous Vehicles</i> Dominic Phillips, Marwa A. Elsayed, and Mohammad Zulkernine 	Zoom
11:45 – 13:30	Lunch	
13:30 – 14:15	<ul style="list-style-type: none"> • Keynote Speech II Chair: Zijiang Yang <i>Interactive Cognition in Unmanned-driving</i> Professor Nan Ma, China Beijing Young and Middle-aged Backbone Teacher Deputy Secretary General of China Artificial Intelligence Society Senior Member of China Computer Society Member of Editorial Board of Journal of Intelligent Systems Beijing University of Technology, China 	Zoom
15:00 – 15:30	Coffee Break	
15:30 – 16:15	<ul style="list-style-type: none"> • Keynote Speech III Chair: Zijiang Yang <i>Technologies and Challenges in Autonomous Driving</i> Dr. Yu Huang Chief Scientist and global AI technical officer Zhito Technology Co. Ltd 	Zoom
18:00	Conference Banquet	