

QRS 2024 Session Schedule
All the sessions are based on the time in Cambridge, UK (UTC+1)

Conference Venue [[Website](#)]
Churchill College, University of Cambridge, UK
Storey's Way, Cambridge CB3 0DS, United Kingdom [[Map](#)]

Wednesday, July 3, 2024		
07:30 – 08:30	<ul style="list-style-type: none"> Registration 	Wolfson Hall
08:30 – 08:45 (15 minutes)	<p>Opening Ceremony</p> <ul style="list-style-type: none"> Steering Committee Chair (Host) <ul style="list-style-type: none"> – W. Eric Wong (University of Texas at Dallas, USA) General Chair <ul style="list-style-type: none"> – Hongji Yang (University of Leicester, UK) Program Chairs <ul style="list-style-type: none"> – Sudipto Ghosh (Colorado State University, USA) – Elena Troubitsyna (KTH Royal Institute of Technology, Sweden) – Zhenyu Chen (Nanjing University, China) 	Wolfson Hall
08:45 – 09:00 (15 minutes)	Special Remarks by Invited Speakers	Wolfson Hall
09:00 – 10:00 (60 minutes)	<ul style="list-style-type: none"> Keynote Speech I (Session Chair: Sudipto Ghosh) <p><i>Automated Test Generation at Meta</i></p> <p>Dr. Mark Harman Research Scientist, Meta Platforms, Inc. (Full Time) Professor of Software Engineering, University College London (UCL) (Part Time)</p> <p>Dr. Nadia Alshahwan Lead Engineer, Meta Platforms, Inc.</p> <p>Zoom link and password for online attendees is in the detailed program.</p>	Wolfson Hall
10:00 – 10:30 (30 minutes)	<ul style="list-style-type: none"> Coffee Break 	Wolfson Hall
10:30 – 12:10 (100 minutes)	<ul style="list-style-type: none"> Session I-A: Reliability Modeling and Prediction (6) Session I-B: Software Testing I (5) Session I-C: Large Language Models and Applications I (5) Session I-D: Blockchain and Smart Contracts (5) Session I-E: Creative Computing I (5) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
12:10 – 13:40 (90 minutes)	<ul style="list-style-type: none"> Lunch 	Dining Hall
13:40 – 15:20 (100 minutes)	<ul style="list-style-type: none"> Session II-A: Bug Analysis and Detection (5) Session II-B: Software Testing II (5) Session II-C: Large Language Models and Applications II (5) Session II-D: Cyber-Physical and Industry Control Systems (5) Session II-E: Creative Computing II (5) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
15:20 – 15:50 (30 minutes)	<ul style="list-style-type: none"> Coffee Break 	TBA
15:50 – 17:30 (100 minutes)	<ul style="list-style-type: none"> Session III-A: Fault Prediction and Localization (5) Session III-B: Software Testing III (5) Session III-C: Large Language Models and Applications III (5) Session III-D: Cybersecurity and Network Attack (6) Session III-E: Creative Computing III (5) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
17:30 – 18:30	<ul style="list-style-type: none"> Recess 	
18:30 – 20:30	<ul style="list-style-type: none"> Reception 	TBA

†Each paper has 15 to 20 minutes including Q/A.

Thursday, July 4, 2024		
08:00 – 09:00	<ul style="list-style-type: none"> Registration 	Wolfson Hall
09:00 – 10:00 (60 minutes)	<ul style="list-style-type: none"> Keynote Speech II (Session Chair: Hongji Yang) <p><i>TBA</i></p> <p>Professor Alastair Beresford Head of Department of Computer Science and Technology Robin Walker Fellow in Computer Science at Queens' College University of Cambridge</p> <p><i>Zoom link and password for online attendees is in the detailed program.</i></p>	Wolfson Hall
10:00 – 10:30 (30 minutes)	<ul style="list-style-type: none"> Coffee Break 	Wolfson Hall
10:30 – 12:10 (100 minutes)	<ul style="list-style-type: none"> Plenary Panel <p><i>Deep Learning and LLM Training: Quality and Reliability</i></p> <p>Moderator: Professor Min Xie (Chair Professor, City University of Hong Kong; IEEE Fellow)</p> <p>Panelists: Professor Ahmed Sayed (Queen Mary University of London) Professor Franz Wotawa (Graz University of Technology) Professor Ross Parry (Leicester University)</p> <p><i>Zoom link and password for online attendees is in the detailed program.</i></p>	Wolfson Hall
12:10 – 13:40 (90 minutes)	<ul style="list-style-type: none"> Lunch 	Dining Hall
13:40 – 15:20 (100 minutes)	<ul style="list-style-type: none"> Session IV-A: Artificial Neural Networks I (6) Session IV-B: Machine/Deep Learning and Applications I (6) Session IV-C: System Testing and Validation (4) Session IV-D: Fuzzing Systems and Techniques (5) Session IV-E: Advanced Computing and Intelligent Services I (5) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
15:20 – 15:50 (30 minutes)	<ul style="list-style-type: none"> Coffee Break 	TBA
15:50 – 17:30 (100 minutes)	<ul style="list-style-type: none"> Session V-A: Artificial Neural Networks II (6) Session V-B: Machine/Deep Learning and Applications II (6) Session V-C: System Security and Dependability (5) Session V-D: Code Analysis and Generation (5) Session V-E: Advanced Computing and Intelligent Services II (5) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
17:30 – 18:30	<ul style="list-style-type: none"> Recess 	
18:30 – 20:30	<ul style="list-style-type: none"> Conference Banquet 	TBA

†Each paper has 15 to 20 minutes including Q/A.

Friday, July 5, 2024		
08:00 – 08:30	<ul style="list-style-type: none"> Registration 	TBA
08:30 – 10:10 (100 minutes)	<ul style="list-style-type: none"> Session VI-A: Autonomous Vehicle Software I (6) Session VI-B: AI Reliability and Security I (5) Session VI-C: Log Analysis and Fault Detection (4) Session VI-D: Dependable Intelligent Systems (6) Session VI-E: Intelligent Software Engineering (5) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
10:10 – 10:30 (20 minutes)	<ul style="list-style-type: none"> Coffee Break 	TBA
10:30 – 12:10 (100 minutes)	<ul style="list-style-type: none"> Session VII-A: Autonomous Vehicle Software II (6) Session VII-B: AI Reliability and Security II (4) Session VII-C: Process Management and Optimization (5) Session VII-D: Empirical Software Engineering and Art Smart Contract I (5) Session VII-E: System and Software Safety (6) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
12:10 – 13:40 (90 minutes)	<ul style="list-style-type: none"> Lunch 	Dining Hall

13:40 – 15:20 (100 minutes)	<ul style="list-style-type: none"> • Session VIII-A: Autonomous Vehicle Software III (6) • Session VIII-B: Dependability Testing and Evaluation of Safety-Critical Systems I (5) • Session VIII-C: Human and Social Aspects of Software Quality (5) • Session VIII-D: Empirical Software Engineering and Art Smart Contract II (6) • Session VIII-E: Systems Verification and Quality (4) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
15:20 – 15:50 (30 minutes)	<ul style="list-style-type: none"> • Coffee Break 	TBA
15:50 – 17:30 (100 minutes)	<ul style="list-style-type: none"> • Session IX-A: Fast Abstract (5) • Session IX-B: Dependability Testing and Evaluation of Safety-Critical Systems II (5) • Session IX-C: Fault Localization and Repair for AI Systems (6) • Session IX-D: Automated and Intelligent Software Testing (6) • Session IX-E: Quantum Computing, IoT, and Data Analysis (3) 	Club Room Seminar Room 2 Bevin Room Tizard Room Jock Colville Hall
17:30	<ul style="list-style-type: none"> • Adjourn 	

[†]Each paper has 15 to 20 minutes including Q/A.

QRS 2024 Session Schedule

All the sessions are based on the time in Cambridge, UK (UTC+1)

Conference Venue [[Website](#)]
Churchill College, University of Cambridge, UK
Storey's Way, Cambridge CB3 0DS, United Kingdom [[Map](#)]

Paper IDs in this preliminary version will not appear in the final version.
They are only used for internal bookkeeping.

Wednesday, July 3, 2024 (10:30 – 12:10) (100 minutes)

Session I-A: Reliability Modeling and Prediction (6)

- R080-Ensuring the Reliability of AI Systems through Methodological Processes
- R098-Enhancing Software Reliability Growth Modeling: A Comprehensive Analysis of Historical Datasets and Optimal Model Selections
- R144-Online Reliability Prediction for Web Applications: An Adaptive Approach with AdaRel
- R079-A Reliability Benchmarking Method for Linux
- R068-A-TCN: Attention-based TCN for OSS Reliability Prediction on High-Dimensional Fault Dataset
- R067-Capacity and Time Reliability Evaluation for Time-Varying Networks

Session I-B: Software Testing I (5)

- R119-EATS: Efficient Adaptive Test Case Selection for Deep Neural Networks
- R120-DeepWeak: Weak Mutation Testing for Mutants Generated by DL Source-Level Mutation Operators
- R140-A Strategy of Dynamic Random Testing with Hybrid Distance Metrics for Quantum Programs
- R141-An Automatic Approach for Uniquely Discovering Actionable Elements for Systematic GUI Testing in Web Applications
- R039-Testing in the Evolving World of DL Systems: Insights from Python GitHub Projects

Session I-C: Large Language Models and Applications I (5)

- R128-A Software Bug Fixing Approach Based on Knowledge-Enhanced Large Language Models
- R076-Evaluating the Performance of Large Language Models in Novice Program Fault Localization
- R099-Exploring Large Language Models for Method Name Prediction
- R116-On the Effectiveness of Large Language Models in Statement-level Code Summarization
- R169-Learning from Failures: Translation of Natural Language Requirements into Linear Temporal Logic with Large Language Models

Session I-D: Blockchain and Smart Contracts (5)

- R012-Blockchain Implementation for Visual Art Copyright Protection
- R081-Efficient Detection of Selfish Mining Attacks on Large-Scale Blockchain Networks
- BSC001-Leveraging Social Media Sentiments and Ethical Signals for NFT Valuation
- BSC002-Decoding Social Sentiment in DAO: A Comparative Analysis of Blockchain Governance Communities
- BSC004-The Economics of Blockchain Governance: Evaluate Liquid Democracy on the Internet Computer

Session I-E: Creative Computing I (5)

- ISCC001-Computational Imagination in Three Dimension Scene Synthesis
- ISCC002-Towards Safe Human-Robot Interaction: A Pilot Study on a Deep Learning-assisted Workspace Monitoring System
- ISCC003-A Creative Computing Approach to Forecasting Yield Shock of Winter Wheat

- ISCC004-Research on the Utilization of Cloud Anchors in 5G Mobile Networks for Interactive XR (AR) Display and Sculptural Art
- ISCC005-A Case Study into Collaborative Creation with Artificial Intelligence in Art Education in Taiwan

Wednesday, July 3, 2024 (13:40 – 15:20) (100 minutes)

Session II-A: Bug Analysis and Detection (5)

- R028-Towards Understanding Bugs in Go Programming Language
- R135-An Empirical Study on Bugs in Rust Programming Language
- R114-Beyond Memory Safety: An Empirical Study on Bugs and Fixes of Rust Programs
- R008-A Privacy Leakage Detection Method for Personalized Course Recommendation Based on Pi-Calculus
- R127-JFuzzer: Detecting Optimization Errors in JavaScript Just-In-Time Compilers

Session II-B: Software Testing II (5)

- R032-OTCP-ISVM: Online Test Case Prioritization Based on Incremental Support Vector Machine
- R004-Precise Android Automated Input Generation
- R101-Test Case Generation for Access Control Based on UML Activity Diagram
- R007-Heuristics for Strongly Killing Mutants in Software Mutation Testing
- S016-Trigginger Adaptation via Contextual Metamorphic Relationships

Session II-C: Large Language Models and Applications II (5)

- R088-Symbolic Execution with Test Cases Generated by Large Language Models
- R070-Evaluating OpenAI Large Language Models for Generating Logical Abstractions of Technical Requirements Documents
- R105-Weaknesses in LLM-Generated Code for Embedded Systems Networking
- R092-A Traffic Domain Classification Method Based on Large Model Multiple Optimization Strategies Neural Network
- GAIT001-Navigating the Risks: A Review of Safety Issues in Large Language Models

Session II-D: Cyber-Physical and Industry Control Systems (5)

- R189-Application Scenario Modeling and Verification for Unmanned Aerial Vehicle Swarm
- SSCPS002-Review of Key Attribute Analysis and Verification Techniques for CPS
- SSCPS001-Evaluating Importance of Nodes in Independent Networks
- R075 - A Metrics-Guided Approach to Dynamic Scheduling and Resource Estimation for Repair of Cyber-Physical Systems
- R074-Assets Criticality Assessment of Industrial Control Systems: A Wind Farm Case Study

Session II-E: Creative Computing II (5)

- ISCC007-The Color Temperature Intensity Adjusting Model For Improving Naked Eye 3D Holographic Computer Projection
 - ISCC008-Preliminary Exploration of Intelligent Virtual Avatars in the Virtual Influencer Industry
 - ISCC009-Immersing and Perceiving in Tourism Scenarios: The Interaction Mechanism between Digital Technologies and Tourists
 - ISCC010-Reshaping and Transforming of English Teaching in Higher Education in the ChatGPT Era: An Empirical Study Based on Big Data
 - ISCC011-The Impact of Digital Technology Application on Tourist Enterprise Performance: The Moderating Role of Ownership Balance Degree
-

Wednesday, July 3, 2024 (15:50 – 17:30) (100 minutes)

Session III-A: Fault Prediction and Localization (5)

- R130-Investigating Reproducibility in Deep Learning-Based Software Fault Prediction
- R022-Employing CNN with Spatial Pyramid Pooling for Predicting Software Defects through Image Analysis
- R019-TWAO: Time-Weight-Aware Oversampling Method for Just-in-Time Software Defect Prediction
- R131-Query Quality Prediction for Text Retrieval-based Bug Localization
- AIRS003-Defect-Introducing Defect Prediction Testing

Session III-B: Software Testing III (5)

- R173-Multimodal Multi-Objective Test Data Generation Method based on Particle Swarm Optimization
- R086- An Approach to Optimize Symbolic Execution in Ethereum Smart Contracts
- R013-Detecting Faults vs Revealing Failures: Exploring the Missing Link
- R146-Comprehensive Functional ETL Testing Methodologies for Real-world Data
- R034-The ACPATH Structural Complexity Metric

Session III-C: Large Language Models and Applications III (5)

- SEBD001-Towards LLM-enhanced Digital Twins of Intelligent Computing Center
- AISS021-A Fine-Grained Emotion Prediction Method Based on Large Language Models
- ISCC006-Large Language Models on Solving Integral Calculus Problems
- AIRS011-Generating Evaluation Criteria of Domain-Specific Large Language Model Using Word Vector Clustering
- AVS004-Research on Intelligent Relic Interpretation System Based on a Large Language Model

Session III-D: Cybersecurity and Network Attack (6)

- R164-A Method of Network Attack Named Entity Recognition Based on Deep Active Learning
- R123-Requirements for Applying SCIA: A Structured Cyberattack Impact Analysis Approach for ICS
- S001-A Novel Explainable Method Based on Grad-CAM for Network Intrusion Detection
- CFSE001-Research of Military Cyber Operation Forensic and Analysis in Russia-Ukraine Conflict
- CFSE002-Advancing Forensic Examination of Cyber Predator Communication through Machine Learning
- CFSE004-Deciphering Livestream Contents: OCR-Driven Thumbnail Forensic Analysis

Session III-E: Creative Computing III (5)

- ISCC012-Centralization or Decentralization? How can Digital Transformation Empowers Firm Performance?
- ISCC013-The Interweaving of Institutional Investors, Cloud Computing Technology and Sustainable Growth of Tourism Enterprises
- ISCC014-Artificial Intelligence as a New Engine for Boosting Economic Performance of Manufacturing Enterprises
- R161-Cloud Computing Technology: Opening a New Chapter of Sustainable Development for Tourism Enterprises
- R167-Digital Application Leads the New Future of Tourism Enterprise Performance: From the Micro-Perspective of Ownership Balance Degree

Thursday, July 4, 2024 (13:40 – 15:20) (100 minutes)

Session IV-A: Artificial Neural Networks I (6)

- R175-Complex Network Theory-based Deep Neural Network Degradation Analysis in the Context of Bit Attack
- R065-DeepDTS: Diverse Test Selection Method for Deep Neural Networks
- S013-cf-TDFM: A Framework for Limiting Fault Infusion Attacks on Deep Neural Networks

- R002-Designing Deep Neural Net Controller for Quadrotor Attitude Stabilization
- DTES005-Bit Attacking Deep Neural Networks Based on Complex Networks Theory
- FPDRE002-Generating Adversarial Examples Using Parameter-Free Penalty Method

Session IV-B: Machine/Deep Learning and Applications I (6)

- R100-Automated Machine Learning for Enhanced Software Reliability Growth Modeling: A Comparative Analysis with Traditional SRGMs
- S020-AI-Driven Green Campus: Solar Panel Fault Detection Using ResNet-50 for Solar-Hydrogen System in Universities
- R078-An Improved Adaptive Angle Weakly Supervised Learning Object Detection+
- R064-Testing and Reinforcement Learning – A Structured Literature Review
- AISS004-Explainable AI Applied in Healthcare: A Case Study of Diabetes Prediction
- AISS005-Image Tampering Detection Method Based on Multi-Feature Fusion

Session IV-C: System Testing and Validation (4)

- Introductory Presentation (Axel Rennoch/Martin Schneider):
The importance of Quality Assurance for ICT Standardization
- Invited Talk (Ramon Barakat):
Interactive Security Testing: Effective Verification of Findings
- STV002-Vulnerability Classification on Source Code using Text Mining and Deep Learning Techniques
- STV001-Towards an Evaluation Methodology of ML Systems from the Perspective of Robustness and Data Quality

Session IV-D: Fuzzing Systems and Techniques (5)

- R097-FMUZZ: A Novel Greybox Fuzzing Approach Based on Mutation Strategy Optimization with Byte Scheduling
- R113-Fuzzing Command-line Interface by Edge Coverage Guided Combinatorial Testing and Input Clustering
- R090-RumFuzz: Coverage-Guided Greybox Fuzzing with Reasonable Use of Memory
- R005-Fuzzy Safety and Liveness Properties in Linear-time
- R096-QAQA-SS: An Improved Fuzzing Approach with Seed Scheduling Based on the UCB Algorithm for QA Systems

Session IV-E: Advanced Computing and Intelligent Services I (5)

- STACIS001-LMSA: Lightweight Multi-Scale Attention Model for Garbage Detection Based on YOLOV5
- STACIS002-Syntax-Dependency Orientation guided Vision-and-Language Transformer for Image-Text Matching
- STACIS003-High Intensity Radar Echo Extrapolation based on Stacked Generative Structure
- STACIS004-A Survey of Methods for Removing EEG Artifacts
- STACIS005-Different Control Methods for FES Cycling: Review

Thursday, July 4, 2024 (15:50 – 17:30) (100 minutes)

Session V-A: Artificial Neural Networks II (6)

- S003-Neural Network-based Functional Degradation for Cyber-Physical Systems
- R117-Enhanced Privacy Protection in Graph Neural Networks Using Local Differential Privacy
- S018-Solar Panel Fault Detection: Applying Convolutional Neural Network for Advanced Fault Detection in Solar-Hydrogen System at University
- R006-Behavioral System for Detecting Injury and Rehabilitation Process in Karate Using SVM And CNN

- DeIS003-MFTCN: A Multi-Frequency Temporal Convolutional Network for Enhancing Temperature Prediction Dependability
- FLRAS004-Rapid Accuracy Loss Evaluation for Quantized Neural Networks Using Attention-Based Multifactor Modeling

Session V-B: Machine/Deep Learning and Applications II (6)

- R166-Portable Intelligent ECG Monitoring System Based on End-Edge-Cloud Architecture
- R040-An Empirical Study on Python Library Dependency and Conflict Issues
- R091- Multi-modal Feature Distillation Emotion Recognition Method For Social Media
- R094-Transferrable DP-Adapter Tuning: A Privacy-Preserving Multimodal Parameter-Efficient Fine-Tuning Framework
- S006-Enhancing Data Retrieval with Custom Embedding Models and ChatGPT in Industrial Application
- PM001-Granger Causality Analysis between Sensor Data based on Deep Gaussian Process Model

Session V-C: System Security and Dependability (5)

- S014-Building Secure Software for Smart Aging Care Systems: An Agile Approach
- SDTPP001-Exploring the Efficacy of Dynamic Approaches in Database Encryption and Translational Security
- R072-Impact of Prior Beliefs on Dependability Prediction for a Changed System Using Pre-Change Operational Evidence
- R139-The PIT-Cerberus Framework: Preventing Device Tampering During Transit
- IT001-Hardware Trojan Detection with Feature Fusion

Session V-D: Code Analysis and Generation (5)

- R021-GNN-Based Transfer Learning and Tuning for Detecting Code Vulnerabilities Across Different Programming Languages
- S007-FMCS: Improving Code Search by Multi-Modal Representation Fusion and Momentum Contrastive Learning
- R014-Which API is Faster: Mining Fine-grained Performance Opinion from Online Discussions
- R089-Graph-based Salient Class Classification in Commits
- SEKM002-An IT Community Code Quality Ranking Model Based on Sentiment Analysis and Fuzzy Multi-Attribute Decision-Making

Session V-E: Advanced Computing and Intelligent Services II (5)

- STACIS006-Evolutionary Review of Research Themes in Functional Electrical Stimulation within the Rehabilitation Medicine Field
- STACIS007-A New Improved Method of Recurrent Memory Perception for Radar Echo Extrapolation
- STACIS008-FedCST: Federated Learning on Heterogeneous Resource-constrained Devices Using Clustering and Split Training
- STACIS009-Automatic Generation of Diagnostic Reports for Nasal Endoscopy Images: A Topic-Aware Report Generation Model
- STACIS010-Research on Intelligent Recognition and Analysis of Power Grid Infrastructure Construction Based on YOLO

Friday, July 5, 2024 (08:30 – 10:10) (100 minutes)

Session VI-A: Autonomous Vehicle Software I (6)

- AVS002-Aircraft Pose Perception Technology Based on Tire Detection for Automatic Docking of Towbarless Aircraft Tractors
- AVS003-A Survey of Automatic Driving Environment Perception

- AVS005-MRM-LOOP A Dynamic Visual Loop Closure Detection Algorithm Based on Motion Region Matching
- AVS006-Pedestrian Detection Method Based on Fusion of LIDAR and Camera
- AVS007-SA-P2T: Sparse Attention-based Pyramid Pooling Transformer Network for Object Detection
- AVS008-Topology design of electronic and electrical architecture for Time-Sensitive Network

Session VI-B: AI Reliability and Security I (5)

- AIRS001-Soft Actor-Critic based Anti-attack XSS Detection
- AIRS002-A Visualization Method for Association Analysis and Fusion based on Large-Scale Polymorphic Information
- AIRS005-A Land-based War-Gaming Simulation Method Based on Multi-Agent Proximal Policy Optimization
- AIRS006-Effects of Lp-norm Deficits in Quantization Human Perception on Attack Methods
- AIRS007-Analysis of Reliable Architecture Techniques for Adaptive Adversarial Systems of System

Session VI-C: Log Analysis and Fault Detection (4)

- R073-Semantic Log Partitioning: Towards Automated Root Cause Analysis
- S004-Event-level Anomaly Detection on Software Logs: Role of Algorithm, Threshold, and Window Size
- S005-Speed and Performance of Parserless and Unsupervised Anomaly Detection Methods on Software Logs
- R087-Log Parsing Using Semantic Filtering Based Prompt Learning

Session VI-D: Dependable Intelligent Systems (6)

- DeIS001-Adaptive Metamorphic Testing for Object Detection Systems
- DeIS002-Test Adequacy Criteria for Metamorphic Testing
- DeIS004-Fault Diagnosis Using Channelized Encoder-Decoder Frame for Distributed Redundant Inertial Navigation System
- DeIS005-Wuli-Shili-Renli-Jili System Approach and Its Application in Large Model Value Alignment
- DeIS007-CGFuzz: A Dynamic Test Case Generation Method for DL Framework Based on Function Coverage
- DeIS008-A Human-machine Intervention Model of Autonomous Driving Vehicle

Session VI-E: Intelligent Software Engineering (5)

- ISE001-Sentiment analysis of comment texts based on deep learning
- ISE003-A Dynamic Interest-aware Message-Passing GCN for Recommendation
- ISE005-MTPI: Multimodal Trajectory Prediction for Autonomous Driving via Informer
- ISE007-Predictive Mutation-Based Fault Localization: Balancing Effectiveness and Cost
- ISE008-A Model-Agnostic Interpretability Approach Based On Enhanced Hierarchical Clustering

Friday, July 5, 2024 (10:30 – 12:10) (100 minutes)

Session VII-A: Autonomous Vehicle Software II (6)

- AVS009-Constraint-Following Robust Control for Flying Car: A Model-Based Approach
- AVS010-Integrating Data-Driven and Knowledge-Driven Methodologies for Safety-Critical Scenario Generation in Autonomous Vehicle Validation
- AVS011-Secure OTA Software Updates for Connected Vehicles Using LoRaWAN and Blockchain
- AVS013-Research on Parametric Generation of Automobile Styling Based on Grasshopper
- AVS014-Immersive Traffic Interactive Simulator for Multi-agent
- AVS015-UrbanME: A New Benchmark for HD Map Elements Extraction in Urban Traffic Scenes

Session VII-B: AI Reliability and Security II (4)

- AIRS008-Temporal Knowledge Graph Reasoning with Dual Guiding Constraints
- AIRS009-Implications for Running AI Applications on Serverless Platforms
- AIRS010-Research on Simulation System Software Reliability Demonstration Testing Scheme Based on Nonparametric Method
- AIRS012-Do Agents Behave Aligned with Human Instructions? - An Automated Assessment Approach

Session VII-C: Process Management and Optimization (5)

- R126-Semi-Automated Refactoring of BPMN Processes
- R020-Dynamic Resource Allocation for Executable BPMN Processes Leveraging Predictive Analytics
- R041-Ant Colony Optimization Based Algorithm for Test Path Generation Problem with Negative Constraints
- R172-A Novel Approach for Traveling Salesman Problem Via Probe Machine
- S012-Model-Driven Development of Single-Page Applications Using UML State Machines and Maude

Session VII-D: Empirical Software Engineering and Art Smart Contract I (5)

- ESE&ASC001-Vulnerability Prediction and Assessment using Software Product Metrics and Machine Learning: What does not work
- ESE&ASC003-YOLO-TSD: A Recognition and Detection Method for Traffic Sign Based on YOLOv5
- ESE&ASC004-The Application of the Teaching Model of "Promoting Learning through Competition, Promoting Teaching through Competition" in the Course of Data Analysis and Mining
- ESE&ASC006-Industrial Process Fault Detection with Multi-View Feature Fusion Attention Mechanism Assisted Autoencoder Network
- ESE&ASC007-Syntactic Information-based Span-level Aspect Sentiment Triplets Extraction

Session VII-E: System and Software Safety (6)

- S010-On Safety Assurance of Symbolic Artificial Intelligence
- DTES004-An Empirical Study on Modeling Testing Requirements for Safety-Critical Software
- ISE002-ADS Modeling and Safety Verification in Extreme Driving Scenarios
- HASQ002-A SSCPS Safety Assessment Method based on Mission Risk
- ISE004-Safety Decision of Autonomous Driving Behavior based on Bayesian Network and its Verification Method
- R142-SIAF: Systematic Interference Analysis Framework for Household Microprocessor Services

Friday, July 5, 2024 (13:40 – 15:20) (100 minutes)

Session VIII-A: Autonomous Vehicle Software III (6)

- AVS016-Cooperative Defense-in-Depth in Large-Scale Autonomous Vehicle Networks
- AVS017-Formalization of Operational Domain and Operational Design Domain for Automated Vehicles
- AVS018-Ethics in Autonomous Vehicles from a different perspective
- AVS019-Towards Simplification of Failure Scenarios for Machine Learning-enabled Autonomous Systems
- AVS020-Public Perception Toward Tesla Fatal Accidents: Neural Network Approach
- AVS024-PreBEV: Leveraging Predictive Flow for Enhanced Bird's-Eye View 3D Dynamic Object Detection

Session VIII-B: Dependability Testing and Evaluation of Safety-Critical Systems I (5)

- DTES001-A Novel Approach for Software Defect Prediction Through Relational Association Rules based on Cost-Sensitive Learning
- DTES002-Hybrid Attention based Spatiotemporal Neural Network in Lifetime Prognostics of Lithium Batteries

- DTES003-Finite Time-Based Adaptive Terminal Sliding Mode Fault-Tolerant Control for Port Automated Guided Vehicles
- DTES006-Generating Adversarial Samples Based on the Attack Robust Training Model
- DTES007-StasogFL: A Fault Localization Method Based on Statement Association Graph

Session VIII-C: Human and Social Aspects of Software Quality (5)

- HASQ003-Research on the Impact of Tester's Technical and Cognitive Factors on Aerospace Software Test Quality
- HASQ004-Ada4DP: Adversarial Enhanced Dual-attentive Aggregation Learning for Defect Prediction
- HASQ005-A Business Main-Path Testing Approach Base on Functional Baseline
- HASQ006-Why Students Write Low-Quality Unit Testing Scripts: An Empirical Study from Software Testing Skill Competitions
- HASQ007-Histogram Publication with Shuffled Differential Privacy

Session VIII-D: Empirical Software Engineering and Art Smart Contract II (6)

- ESE&ASC008-The Application of LLMs in the Analysis and Modeling of Software Requirements
- ESE&ASC090-How to Choose a Suitable Method in Image Semantic Segmentation-An Experimental Study
- ESE&ASC093-Preset Emotional Experience Adaptive Detection and Complexity Interpretation of Implicit Order in Facial Emotion Recognition Calculations
- ESE&ASC094-Incarnation-Mediated: Cognitive Measurement of Virtual Scenes and Analysis of c Complex Active Adaptive Behaviors in Realistic Scenography
- ESE&ASC095-Construction of Urban Governance Portrait Based on Space-Terrestrial Integration Digital Intelligence Pedestal
- ESE&ASC096-Experiment on the Effectiveness of Air-Space Numerical Intelligence Modeling for National Security Strategic Information Needs

Session VIII-E: Systems Verification and Quality (4)

- R084-Efficient Verification of Multi-Agent Systems Through Parallel
- R031-Classification Method of Ethereum Smart Contracts Based on Statistical Model Checking
- IT003-Survey on the Impact of Agile Development on Software Quality
- SEKM001-An Empirical Study on the Characteristics of Connected Knowledge Subgraphs on Stack Overflow

Friday, July 5, 2024 (15:50 – 17:30) (100 minutes)

Session IX-A: Fast Abstract (5)

- FA006-Multi-role Consensus through LLMs Discussions for Vulnerability Detection
- FA007-C-rusted: Safe and Secure Programming in Standard C
- FA008-A Graph-based Approach for Discovering Evidence Relationships Across Multiple Devices in Group Crimes
- R106-Harmonization of Security Standards for Embedded Systems in a Comprehensive Metamodel: The Security Abstraction Model
- R157-Evaluating the performance resilience of serverless applications using chaos engineering

Session IX-B: Dependability Testing and Evaluation of Safety-Critical Systems II (5)

- DTES008-An Ensemble Feature Selection Method based on Symmetrical Uncertainty and Correlation for Software Defect Prediction
- DTES009-Research on the Integration Method of Software Static Testing Tools based on Machine Learning
- DTES010-A Fault Analysis and Reasoning Method for Vehicle Information Systems Based on Knowledge Graphs

- DTES011-Fine-Tuning BERT for Intelligent Software System Fault Classification
- DTES013-Software Fault Localization based on Eigenvector Centrality in Complex Network Theory

Session IX-C: Fault Localization and Repair for AI Systems (6)

- FLRAS001-Enhancing Programming Competition Performance: A Data-Driven Approach to Personalized Training
- FLRAS002-Using μ Bert to Improve Mutation-Based Fault Localization for Novice Programs
- FLRAS003-Design and Application of Ship Information System Development Platform Architecture Based on OSGi
- FLRAS005-High Accurate, Low Latency Conversion of Spiking Neural Networks with BLIF Neurons
- FLRAS006-Failure Modelling and Analysis of Airborne Video Transmission System Based on Data Reliability
- IEC002-Search-Based Automated Program Repair: A Survey

Session IX-D: Automated and Intelligent Software Testing (6)

- AIST001-A Fuzzing Method for Embedded Bus Based on Dynamic Mutation of Message Sequences
- AIST002-A Data Constraint Analysis Method for Full-Digital Simulation Test
- AIST003-Research on Program Change Impact Analysis Methods Based on Software Networks
- AIST004-Directed Fuzzing with Adaptive Path Guidance and Weighted Distribution
- AIST005-The Effect of Variable Strength Combinatorial Coverage for Neurons on Fault Detection in Deep Neural Networks
- IEC001-A Review of the Applications of Heuristic Algorithms in the Test Case Generation Problem

Session IX-E: Quantum Computing, IoT, and Data Analysis (3)

- DDBDM003-Recursive Generation of Multi-qubits Control Gate to Facilitate the Grover's Quantum Algorithm in Large Scale Database Search
- R174-A Distributed Service Function Chain Orchestration Approach with VNF Reuse to Balance Latency and Resource Efficiency
- SDTPP002-The Most Important Factors Chosen in Medical Clinical Data by Using Multi-Facet Clustering Variational Autoencoders (MFCVAE)