

ICECCS 2026

International Conference on Engineering of Complex Computer Systems

23-24 November 2026 • Brisbane, Australia

Programme at a glance

Day	Registration / Keynote	Paper programme	Parallel sessions
Mon 23 Nov	08:30–08:55 / 09:00–10:00	10:00-17:30	11:30-13:00; 14:00-15:40
Tue 24 Nov	08:30-09:00 / 09:00-10:00	10:00-17:30	14:00-15:40

08:30–08:55	**Registration**
08:55–09:00	**Opening Remarks · S05 2.04**

Opening Keynote

09:00-10:00 | S05 2.04 | Chair: TBC

Time	Keynote
09:00-10:00	**Vector Databases: Essential Infrastructure for Agentic AI** Professor Xiaofang Zhou The Hong Kong University of Science and Technology

Session 1: LLM-Enabled Software Engineering and Assurance

10:00-11:00 | S05 2.04 | Chair: TBC

Time	Presentation
10:00-10:20	Beyond Functional Correctness: Static Code Quality Profiling of LLM-Generated Code *Jue Huang, Tarek Mahmud, Meiru Che and Guowei Yang*
10:20-10:40	Towards Verification-Driven Automated Software Architecture Refactoring via LLM Agents *Mengze Li, Jing Sun, Nacha Chondamrongkul, Zixiao Zhao and Hai Wang*
10:40-11:00	Continuous Assurance of Agentic Security Auditors for Software Delivery Decision Gates *Guy Lupo, Nguyen Hung Nguyen, Viet Vo, M.A.P. Chamikara, Guangdong Bai, Nazatul Haque Sultan and Alsharif Abuadbba*

11:00-11:30	**Morning tea**

Parallel Sessions 2A / 2B

11:30-13:00

Session 2A: Software Quality and Maintenance

S05 2.04 | Chair: TBC

Time	Presentation
11:30–11:50	A Systematic Study of Deprecated Android API Usage Updates *Tarek Mahmud, Meiru Che and Guowei Yang*
11:50–12:10	HunterDep: Evidence-Closed Verification for Repository-Level Dependency Detection in Complex C/C++ Repositories *Tianchan Yang, Tieming Liu, Zirui Jiang, Yudong Huang, Xingyu Bai and Yisen Wang*
12:10–12:30	Enhancing Code Smell Detection through Evidence-First Reasoning *Hongyu Li, Jing Sun and Gill Dobbie*
12:30–12:45	Incremental Updates in Vexa: A Declarative Approach to Vue.js Applications *Yizhi Mei and Tetsuo Kamina*
12:45–13:00	Adaptive Synthetic Augmentation for Long-Tailed Bug Triage *Thazin Win Win Aung, Farhana Afroz, Imtiazuddin Ali Khan Mohammed and Yulei Sui*

Session 2B: Cybersecurity Analysis and Evidence

S02 6.37 | Chair: TBC

Time	Presentation
11:30–11:50	BinGraphxLLM: Validation-Guided Pseudocode Normalization for Graph-Based Binary Vulnerability Detection *Wenbo Zhang and Danwei Chen*
11:50–12:10	FuncSim-Agent: An Agent-Based Framework for Binary Function Similarity Detection *Pengyu Wang, Yuxuan Li, Le Zhang, Yixiao Yang and Rui Wang*
12:10–12:30	Retrieval-Constrained Agentic Recovery of Missing Cross-Repository CTI Mappings *Md. Muztahidul Islam Tanim, Swapnil Pandey and Rajesh Kumar*
12:30–12:45	Password Guessing with Small Language Models: Scale Is Not All You Need *Mohammad Mohammadi, Jie Zhang, Xiaohong Li and Ruitao Feng*

13:00-14:00	**Lunch**

Parallel Sessions 3A / 3B

14:00-15:40

Session 3A: Formal Verification and Trustworthy Computation

S05 2.04 | Chair: TBC

Time	Presentation
14:00–14:20	Verified Robust Aggregation for Dynamic Programming: Lean 4 Formalization of Robust Wagner-Whitin and Economic Order Interval *Ieva Daukantas, Jing Sun and Kewen Wang*
14:20–14:40	Formal Verification of the HotStuff Consensus Protocol *Xilong Zhuo, Chenyi Zhang and Walter Guttmann*
14:40–15:00	DFR-Cert: A Trusted-Checker Architecture for Auditable ML-KEM Decryption-Failure Bounds *Maosheng He, Xiuze Dong, Zhao Wang, Zhiqiang Liang, Kangfei Xiao, Runze Zhou and Qian Cheng*
15:00–15:15	P-IC3: Racing Three IC3 Workers with Different Literal-Deletion Orders *Yuhan Li, Guangyu Hu, Liangze Yin and Ji Wang*
15:15–15:30	A weight-based error aware remapping of the SABRE algorithm on the IBM Fez quantum computer *Salma K. Elsokkary and Ian R. Petersen*

Session 3B: Security Architecture, Resilience and Blockchain

S02 6.37 | Chair: TBC

Time	Presentation
14:00–14:20	Scaling Proof-of-Work Validation to Internet Volumes: A Subtree-Streaming Analysis of Teranode *Brendan Lee*
14:20–14:40	SpiderSec: A Model-to-Analysis Transformation Method for Requirement-Aware Threat Analysis in Satellite Internet Systems *Jiaqi Li, Yang Zhao, Wen Lu, Yang Yu, Baohua Qiu and Lidong Zhai*
14:40–15:00	HGPF4IDS: Hybrid Gating with Prototype Fusion for Intrusion Detection System in IoHT *Xian-Xian Liu and Jie Yang*
15:00–15:20	LS-CCDS: A Lightweight and Secure Cross-Chain Data Sharing Scheme Based on Searchable Proxy Re-Encryption *Jinpeng Huang, Xiaohong Li, Zhaoyang Ma, Zimo Wang, Yongyang Lv and Ruitao Feng*
15:20–15:40	Payment-as-a-Service: Bitcoin Lightning Network Yield Optimization and Risk Mitigation *Zhongli Dong, Young Choon Lee and Albert Y. Zomaya*

15:40-16:10 **Afternoon tea**

Session 4: Verification, Program Analysis and Governance

16:10-17:30 | S05 2.04 | Chair: TBC

Time	Presentation
16:10-16:30	How Many Digits Can You Trust? Numerical Validation and Instability Localization in a Real-World Application *Hanane Benmaghnia, Marek Felšöci, Fabienne Jézéquel and Stef Graillat*
16:30-16:50	Specification-Driven Differential Conformance Testing of Protocol Implementations *Maryam Asgari Araghi and Ferhat Khendek*
16:50-17:10	LLM-Assisted Object-Sensitive Pointer Analysis *Bharti Chimdyalwar, Priyanka Darke, Sahil Sulakhe, Supratik Chakraborty and Abhishek Londhe*
17:10-17:30	RT-Evi: Empirical-Risk-Guided Intra-Request Control for Deadline-Aware Progressive Inference **(Online)** *Xiuyu Liu, Wenjing Li, Zhiqiang Liu, Yaxin Dai and Shuyu Liu*

18:00–21:00 **Conference Banquet · Popolo Restaurant**

08:30-09:00 — **Registration**

Opening Keynote

09:00-10:00 | S05 2.04 | Chair: TBC

Time	Keynote
09:00-10:00	**Learning at Test Time: Adapting Models to a Changing World** Professor Helen Huang Professor and Discipline Leader, Data Science, The University of Queensland

Session 5: LLM Reasoning, Models and Synthesis

10:00-11:00 | S05 2.04 | Chair: TBC

Time	Presentation
10:00-10:20	DocVerify: Constraint-Based Verification of LLM Outputs Against Document Knowledge *Yihao Zhang, Zeming Wei, Xiaokun Luan and Meng Sun*
10:20-10:40	Automata Extraction from Transformers *Yihao Zhang, Zeming Wei and Meng Sun*
10:40-11:00	Switchback: Observational Model Synthesis via Model Lattice Traversal and LLM Guidance *Antonio Napoli, Tiziano Marinaro, Roberto Guanciale and Hamed Nemati*

11:00-11:30 — **Morning tea**

Session 6: Generative AI: Applications, Analysis and Governance

11:30-13:00 | S05 2.04 | Chair: TBC

Time	Presentation
11:30-11:50	C3-SQLGen: Constraint-Aware, Complex and Correct SQL Generation with Reinforcement Learning *Hang Zhou, Yuqing Chen, Zhuan Li, Yong Zhang, Shuneng Hu and Chenghao Li*
11:50-12:10	Regulatory Indeterminacy in XR Privacy Policies: An Evidence-Grounded Framework for AI Act Trigger Assessment *Weiqi Feng, Fuman Xie, Mohan Baruwal Chhetri, Tingmin Wu and Zhenchang Xing*
12:10-12:30	On the Predictability of Program Structure from Generation-Time Uncertainty *Qin Zhu, Fanzi Zeng, Longbao Dai, Haoran Kong and Wenlong Liu*
12:30-12:45	LensRAG: A Learning-Oriented Environment for Understanding, Comparing, and Evaluating RAG Pipelines *Kit Ho Chan, Chin Ann Ong and Owen Noel Newton Fernando*
12:45-13:00	When Grounding Hurts: Retrieval and Validation for LLM Repair of Quantum Programs *Xuan-Bach Le, Phat T. Tran-Truong and Duy Nguyen*

13:00-14:00 — **Lunch**

Parallel Sessions 7A / 7B

14:00-15:40

Session 7A: Responsible, Robust and Dependable AI

S05 2.04 | Chair: TBC

Time	Presentation
14:00–14:20	Fairness Assessment of LLM-Based Recruitment Systems: Beyond Direct Sensitive Attributes *Jingyu Zhao and Miao Xu*
14:20–14:40	A Compositional Optimization Framework Driven by Multi-Teacher Distillation for Enhancing Robustness against Harmful Adversarial Perturbations *Jiashuo Yan, Quanhai Zhang, Li Pan, Baowen Zhang and Ning Zhang*
14:40–15:00	Verification-Aware Training for Formally Robust Forecast-Driven Neural Controllers *Ieva Daukantas, Jing Sun and Kewen Wang*
15:00–15:15	SRPlanner: Safety-Rule-Constrained Real-Time Trajectory Planning with a Frozen Vision-Language Model **(Online)** *Chen Zhang and Yigui Luo*
15:15–15:30	LightKGR: A Two-Stage Knowledge Graph Re-Ranking Framework for Recommendation on Sparse Interaction Data **(Online)** *Jingdong Wang and Bumdari Bymbasuren*

Session 7B: Engineering Intelligent Systems

S02 6.37 | Chair: TBC

Time	Presentation
14:00–14:20	Robust and Privacy-Preserving Federated Large Language Models for Medical Text Learning via Dual-Purpose Perturbation *Sai Li, Yiming Li, Jingwei Zhao, Wei Chen and Xiaojin Zhang*
14:20–14:40	PMRFL: Personalized Mean Regularization for Heterogeneous Federated Medical Image Recognition *Zhaobin Li, Mingliang Mo, Jian Shi and Zhanzhen Wei*
14:40–15:00	ConflictFuse: Engineering Dependable LLM-Based Arbitration for Heterogeneous Multi-Sensor Systems *Zhao Wang, Xiuze Dong, Maosheng He and Kangfei Xiao*
15:00–15:20	GeoStruct: Dependency-Aware Scene-Object-Relation Alignment for Remote Sensing Image-Text Retrieval **(Online)** *Yongqiu Jiang, Xinpan Yuan, Shaomin Xie and Jiawei He*
15:20–15:40	Scalable Driver Relay Matching under Regulatory Constraints via Graph Attention Reinforcement Learning **(Online)** *Thu Hien Nguyen, Huu Tam Tran and Cong Doan Truong*

15:40-16:10 **Afternoon tea**

Session 8: Software Architecture, Integration and Assurance

16:10-17:30 | S05 2.04 | Chair: TBC

Time	Presentation
16:10-16:30	Valid Package, Invalid Release: Validating LLM-Generated Python Dependencies *Tianchan Yang, Tieming Liu, Zirui Jiang, Yudong Huang, Xingyu Bai and Yisen Wang*
16:30-16:50	HardenArch: Evidence-Traceable Architecture Hardening from Attack Points to Design Decisions **(Online)** *Hao Chen, Bixin Li and Chunguang Zhang*
16:50-17:10	Kuda-LogCode: An Automated Integration Framework for Distributed Heterogeneous Systems Based on Universal Program Hierarchy Trees **(Online)** *Tianxiang Jiang*
17:10-17:30	Sustaining Operational Readiness in AI-Accelerated Development: Integrating Agentic Production Support with Specification-Driven Development **(Online)** *Harry Xie and Rocker D'Antonio*

17:30–17:35 **Closing Remarks**