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| <i>Xiaoning Chang (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Zheheng Liang (GuangDong Power Grid; China Southern Power Grid, China), Guoquan Wu (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Yu Gao (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Wei Chen (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Jun Wei (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Zhenyue Long (GuangDong Power Grid; China Southern Power Grid, China), Lei Cui (GuangDong Power Grid; China Southern Power Grid, China), and Tao Huang (Chinese Academy of Sciences; China Southern Power Grid, China)</i> | |
| PSMT: Satisfiability Modulo Theories Meets Probability Distribution | 1756 |
| <i>Fuqi Jia (SKLCS, ISCAS; University of Chinese Academy of Sciences, China), Rui Han (SKLCS, ISCAS; University of Chinese Academy of Sciences, China), Xutong Ma (SKLCS, ISCAS; University of Chinese Academy of Sciences, China), Baoquan Cui (SKLCS, ISCAS; University of Chinese Academy of Sciences, China), Minghao Liu (SKLCS, ISCAS; University of Chinese Academy of Sciences, China), Pei Huang (Stanford University, USA), Feifei Ma (SKLCS, ISCAS; University of Chinese Academy of Sciences, China), and Jian Zhang (SKLCS, ISCAS; University of Chinese Academy of Sciences, China)</i> | |
| SAT-Verifiable LTL Satisfiability Checking via Graph Representation Learning | 1761 |
| <i>Weilin Luo (Sun Yat-sen University, China), Yuhang Zheng (Sun Yat-sen University, China), Rongzhen Ye (Sun Yat-sen University, China), Hai Wan (Sun Yat-sen University, China), Jianfeng Du (Guangdong University of Foreign Studies, Pazhou Lab, China), Pingjia Liang (Sun Yat-sen University, China), and Polong Chen (Sun Yat-sen University, China)</i> | |
| PURLTL: Mining LTL Specification from Imperfect Traces in Testing | 1766 |
| <i>Bo Peng (Sun Yat-Sen University, China), Pingjia Liang (Sun Yat-Sen University, China), Tingchen Han (Sun Yat-Sen University, China), Weilin Luo (Sun Yat-Sen University, China), Jianfeng Du (Guangdong University of Foreign Studies, Pazhou Lab, China), Hai Wan (Sun Yat-Sen University, China), Rongzhen Ye (Sun Yat-Sen University, China), and Yuhang Zheng (Sun Yat-Sen University, China)</i> | |
| Enhancing Code Safety in Quantum Intermediate Representation | 1771 |
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| Towards a Formal Framework for Normative Requirements Elicitation | 1776 |
| <i>Nick Feng (University of Toronto, Canada), Lina Marsso (University of Toronto, Canada), Sinem Getir Yaman (University of York, England), Beverley Townsend (University of York, England), Ana Cavalcanti (University of York, England), Radu Calinescu (University of York, England), and Marsha Chechik (University of Toronto, Canada)</i> | |
| Hot Patching Hot Fixes: Reflection and Perspectives | 1781 |
| <i>Carol Hanna (University College London, United Kingdom) and Justyna Petke (University College London, United Kingdom)</i> | |

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| Symbolic Verification of Fuzzy Logic Models | 1787 |
| <i>Siang Zhao (National University of Defense Technology, China), Zhongyang Li (National University of Defense Technology, China), Zhenbang Chen (National University of Defense Technology, China), and Ji Wang (National University of Defense Technology, China)</i> | |
| A Majority Invariant Approach to Patch Robustness Certification for Deep Learning Models | 1790 |
| <i>Qilin Zhou (City University of Hong Kong), Zhengyuan Wei (City University of Hong Kong), Haipeng Wang (City University of Hong Kong), and W.K. Chan (City University of Hong Kong)</i> | |
| Fault Localization for Buggy Deep Learning Framework Conversions in Image Recognition | 1795 |
| <i>Nikolaos Louloudakis (University of Edinburgh), Perry Gibson (University of Glasgow), José Cano (University of Glasgow), and Ajitha Rajan (University of Edinburgh)</i> | |
| Towards Safe Automated Refactoring of Imperative Deep Learning Programs to Graph Execution..... | 1800 |
| <i>Raffi Khatchadourian (City University of New York (CUNY) Hunter College), Tatiana Castro Vélez (CUNY Graduate Center), Mehdi Bagherzadeh (Oakland University), Nan Jia (CUNY Graduate Center), and Anita Raja (City University of New York (CUNY) Hunter College; CUNY Graduate Center)</i> | |
| Scalable Industrial Control System Analysis via XAI-Based Gray-Box Fuzzing | 1803 |
| <i>Justin Kur (Oakland University), Jingshu Chen (Oakland University), and Jun Huang (City University of Hong Kong)</i> | |

Industry Showcase

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| Predicting Compilation Resources for Adaptive Build in an Industrial Setting | 1808 |
| <i>Junhao Hu (Peking University, China), Chaozheng Wang (The Chinese University of Hong Kong, China), Hailiang Huang (Tencent Inc., China), Huang Luo (Tencent Inc., China), Yu Jin (Tencent Inc., China), Yuetang Deng (Tencent Inc., China), and Tao Xie (Peking University, China)</i> | |
| Open Source Software Tools for Data Management and Deep Model Training Automation | 1814 |
| <i>Umut Tıraşoğlu (ORDULU Technology Corp., Turkey), Abdussamet Türker (ORDULU Technology Corp., Turkey), Adnan Ekici (ORDULU Technology Corp., Turkey), Hayri Yiğit (ORDULU Technology Corp., Turkey), Yusuf Enes Bölükbaşı (ORDULU Technology Corp., Turkey), and Toygar Akgün (TOBB University of Economics and Technology, Turkey)</i> | |
| RocketHA: A High Availability Design Paradigm for Distributed Log-Based Storage System | 1819 |
| <i>Juntao Ji (Alibaba Cloud Computing Co. Ltd., China), Rongtong Jin (Alibaba Cloud Computing Co. Ltd., China), Yubao Fu (Alibaba Cloud Computing Co. Ltd., China), Yinyou Gu (Alibaba Cloud Computing Co. Ltd., China), Tsung-han Tsai (Alibaba Cloud Computing Co. Ltd., China), and Qingshan Lin (Alibaba Cloud Computing Co. Ltd., China)</i> | |

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| Assessing the Impact of Refactoring Energy-Inefficient Code Patterns on Software Sustainability: An Industry Case Study | 1825 |
| <i>Rohit Mehra (Accenture Labs, India), Priyavanshi Pathania (Accenture Labs, India), Vibhu Saujanya Sharma (Accenture Labs, India), Vikrant Kaulgud (Accenture Labs, India), Sanjay Podder (Technology Sustainability Innovation, Accenture, India), and Adam P. Burden (Accenture, USA)</i> | |
| Green AI Quotient : Assessing Greenness of AI-based software and the way forward | 1828 |
| <i>Samarth Sikand (Accenture Labs, India), Vibhu Saujanya Sharma (Accenture Labs, India), Vikrant Kaulgud (Accenture Labs, India), and Sanjay Podder (Accenture, India)</i> | |
| Challenges of Accurate and Efficient AutoML | 1834 |
| <i>Swarnava Dey (Embedded Devices & Intelligent Systems, TCS Research, India), Avik Ghose (Digital Health & Wellness, TCS Research, India), and Soumik Das (TCS Pace Port, Tata Consultancy Services Ltd., Canada)</i> | |
| Zero-Config Fuzzing for Microservices | 1840 |
| <i>Wei Wang (Google, Inc.), Andrei Benea (Google, Inc.), and Franjo Ivančić (Google, Inc.)</i> | |
| Smart Prompt Advisor: Multi-Objective Prompt Framework for Consistency and Best Practices ... | 1846 |
| <i>Kanchanjot Kaur Phokela (Accenture Labs, India), Samarth Sikand (Accenture Labs, India), Kapil Singi (Accenture Labs, India), Kuntal Dey (Accenture Labs, India), Vibhu Saujanya Sharma (Accenture Labs, India), and Vikrant Kaulgud (Accenture Labs)</i> | |
| Improving Design Reviews at Google | 1849 |
| <i>Celal Ziftci (Google, USA) and Ben Greenberg (Google, USA)</i> | |
| Software Engineering Using Autonomous Agents: Are We There Yet? | 1855 |
| <i>Samdyuti Suri (Accenture Tech Labs, India), Sankar Narayan Das (Accenture Tech Labs, India), Kapil Singi (Accenture Tech Labs, India), Kuntal Dey (Accenture Tech Labs, India), Vibhu Saujanya Sharma (Accenture Tech Labs, India), and Vikrant Kaulgud (Accenture Tech Labs, India)</i> | |
| Government Mobile Apps: Analysing Citizen Feedback via App Reviews | 1858 |
| <i>Tooba Aamir (CSIRO's Data61, Australia), Mohan Baruwal Chhetri (CSIRO's Data61, Australia), M.A.P. Chamikara (CSIRO's Data61, Australia), and Marthie Grobler (CSIRO's Data61, Australia)</i> | |
| Coding and Debugging by Separating Secret Code Toward Secure Remote Development | 1864 |
| <i>Shinobu Saito (NTT Computer and Data Science Laboratories, Japan)</i> | |
| An Industrial Practice for Securing Android Apps in the Banking Domain | 1870 |
| <i>Vikas K. Malviya (Singapore Management University, Singapore), Phong Phan (i-Sprint Innovations Pte. Ltd, Singapore), Yan Naing Tun (Singapore Management University, Singapore), Albert Ching (i-Sprint Innovations Pte. Ltd, Singapore), and Lwin Khin Shar (Singapore Management University, Singapore)</i> | |

Industry Challenge (Competition)

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| ACWRRecommender: A Tool for Validating Actionable Warnings with Weak Supervision | 1876 |
| <i>Zhipeng Xue (Zhejiang University, China), Zhipeng Gao (Zhejiang University, China), Xing Hu (Zhejiang University, China), and Shanping Li (Zhejiang University, China)</i> | |
| An Automated and Flexible Multilingual Bug-Fix Dataset Construction System | 1881 |
| <i>Wenkang Zhong (Nanjing University, China), Chuanyi Li (Nanjing University, China), Yunfei Zhang (Nanjing University, China), Ziwen Ge (Nanjing University, China), Jingyu Wang (Nanjing University, China), Jidong Ge (Nanjing University, China), and Bin Luo (Nanjing University, China)</i> | |
| A Closer Look at Different Difficulty Levels Code Generation Abilities of ChatGPT | 1887 |
| <i>Dapeng Yan (Nanjing University of Aeronautics and Astronautics, China), Zhipeng Gao (Zhejiang University, China), and Zhiming Liu (Southwest University, China)</i> | |
| PreciseBugCollector: Extensible, Executable and Precise Bug-fix Collection | 1899 |
| <i>Ye He (Carnegie Mellon University, US), Zimin Chen (KTH Royal Institute of Technology, Sweden), and Claire Le Goues (Carnegie Mellon University, US)</i> | |
| Function-Level Vulnerability Detection Through Fusing Multi-Modal Knowledge | 1911 |
| <i>Chao Ni (Zhejiang University, China), Xinrong Guo (Zhejiang University, China), Yan Zhu (Zhejiang University, China), Xiaodan Xu (Zhejiang University, China), and Xiaohu Yang (Zhejiang University, China)</i> | |
| BugMiner: Automating Precise Bug Dataset Construction by Code Evolution History Mining | 1919 |
| <i>Xuezhi Song (Fudan University, China), Yijian Wu (Fudan University, China), Junming Cao (Fudan University, China), Bihuan Chen (Fudan University, China), Yun Lin (Shanghai Jiao Tong University, China), Zhengjie Lu (Fudan University, China), Dingji Wang (Fudan University, China), and Xin Peng (Fudan University, China)</i> | |
| RPCover: Recovering gRPC Dependency in Multilingual Projects | 1930 |
| <i>Aoyang Fang (The Chinese University of Hong Kong, China), Ruiyu Zhou (The Chinese University of Hong Kong, China), Xiaoying Tang (The Chinese University of Hong Kong, China), and Pinjia He (The Chinese University of Hong Kong, China)</i> | |
| VALAR: Streamlining Alarm Ranking in Static Analysis with Value-Flow Assisted Active Learning | 1940 |
| <i>Pengcheng Liu (Nanjing University, China), Yifei Lu (Nanjing University, China), Wenhua Yang (Nanjing University of Aeronautics and Astronautics, China), and Minxue Pan (Nanjing University, China)</i> | |

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| REEF: A Framework for Collecting Real-World Vulnerabilities and Fixes | 1952 |
| <i>Chaozheng Wang (Harbin Institute of Technology, China), Zongjie Li (Hong Kong University of Science and Technology, China), Yun Peng (The Chinese University of Hong Kong, China), Shuzheng Gao (The Chinese University of Hong Kong, China), Sirong Chen (Harbin Institute of Technology, China), Shuai Wang (Hong Kong University of Science and Technology, China), Cuiyun Gao (Harbin Institute of Technology, China), and Michael R. Lyu (The Chinese University of Hong Kong, China)</i> | |
| Potential Solutions to Challenges in C Program Repair: A Practical Perspective | 1963 |
| <i>Jifeng Xuan (Wuhan University, China), Qi Xin (Wuhan University, China), Liqian Chen (National University of Defense Technology, China), and Xiaoguang Mao (National University of Defense Technology, China)</i> | |
| Minecraft: Automated Mining of Software Bug Fixes with Precise Code Context | 1969 |
| <i>Sai Krishna Avula (IIT Gandhinagar, India), Venkatesh Vobbiliseti (NIT Raipur, India), and Shouvik Mondal (IIT Gandhinagar, India)</i> | |
| Unifying Defect Prediction, Categorization, and Repair by Multi-Task Deep Learning | 1980 |
| <i>Chao Ni (Zhejiang University, China), Kaiwen Yang (Zhejiang University, China), Yan Zhu (Zhejiang University, China), Xiang Chen (Nantong University, China), and Xiaohu Yang (Zhejiang University, China)</i> | |
| MalWuKong: Towards Fast, Accurate, and Multilingual Detection of Malicious Code Poisoning in OSS Supply Chains | 1993 |
| <i>Ningke Li (Huazhong University of Science and Technology, China), Shenao Wang (Huazhong University of Science and Technology, China), Mingxi Feng (Huazhong University of Science and Technology, China), Kailong Wang (Huazhong University of Science and Technology, China), Meizhen Wang (Huazhong University of Science and Technology, China), and Haoyu Wang (Huazhong University of Science and Technology, China)</i> | |
| CiD4HMOS: A Solution to HarmonyOS Compatibility Issues | 2006 |
| <i>Tianzhi Ma (Nanjing University of Aeronautics and Astronautics, China), Yanjie Zhao (Monash University, Australia), Li Li (Beihang University, China), and Liang Liu (Nanjing University of Aeronautics and Astronautics, China)</i> | |

Tool Demonstrations

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| Bus Factor Explorer | 2018 |
| <i>Egor Klimov (JetBrains Research, Serbia), Muhammad Umair Ahmed (Bilkent University, Türkiye), Nikolai Sviridov (JetBrains Research, Serbia), Pouria Derakhshanfar (JetBrains Research, The Netherlands), Eray Tüzün (Bilkent University, Türkiye), and Vladimir Kovalenko (JetBrains Research, The Netherlands)</i> | |
| EXPRESS 2.0: An Intelligent Service Management Framework for AIoT Systems in the Edge | 2022 |
| <i>Jia Xu (Anhui University, China), Xiao Liu (Deakin University, Australia), Wuzhen Pan (Anhui University, China), Xuejun Li (Anhui University, China), Aiting Yao (Anhui University, China), and Yun Yang (Swinburne University of Technology, Melbourne, Australia)</i> | |

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| RJoules: An Energy Measurement Tool for R | 2026 |
| <i>Rajrupa Chattaraj (Indian Institute of Technology Tirupati, India) and Sridhar Chimalakonda (Indian Institute of Technology Tirupati, India)</i> | |
| ArduinoProg: Towards Automating Arduino Programming | 2030 |
| <i>Imam Nur Bani Yusuf (Singapore Management University, Singapore), Diyannah Binte Abdul Jamal (Singapore Management University, Singapore), and Lingxiao Jiang (Singapore Management University, Singapore)</i> | |
| BUGSC++: A Highly Usable Real World Defect Benchmark for C/C++ | 2034 |
| <i>Gabin An (KAIST, Republic of Korea), Minhyuk Kwon (Suresoft Technologies, Republic of Korea), Kyunghwa Choi (Suresoft Technologies, Republic of Korea), Jooyong Yi (UNIST, Republic of Korea), and Shin Yoo (KAIST, Republic of Korea)</i> | |
| ExpressAPR: Efficient Patch Validation for Java Automated Program Repair Systems | 2038 |
| <i>Yuan-An Xiao (Peking University, China), Chenyang Yang (Peking University, China), Bo Wang (Beijing Jiaotong University, China), and Yingfei Xiong (Peking University, China)</i> | |
| Polyglot Code Smell Detection for Infrastructure as Code with GLITCH | 2042 |
| <i>Nuno Saavedra (INESC-ID and IST, University of Lisbon, Portugal), João Gonçalves (INESC-ID and IST, University of Lisbon, Portugal), Miguel Henriques (INESC-ID and IST, University of Lisbon, Portugal), João F. Ferreira (INESC-ID and IST, University of Lisbon, Portugal), and Alexandra Mendes (University of Porto, Portugal)</i> | |
| NRAGo: Solving SMT(NRA) Formulas with Gradient-Based Optimization | 2046 |
| <i>Minghao Liu (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Kunhang Lv (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Pei Huang (Stanford University), Rui Han (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Fuqi Jia (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Yu Zhang (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Feifei Ma (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), and Jian Zhang (Chinese Academy of Sciences; University of Chinese Academy of Sciences, China)</i> | |
| CPA-DF: A Tool for Configurable Interval Analysis to Boost Program Verification | 2050 |
| <i>Dirk Beyer (LMU Munich, Germany), Po-Chun Chien (LMU Munich, Germany), and Nian-Ze Lee (LMU Munich, Germany)</i> | |
| COMEX: A Tool for Generating Customized Source Code Representations | 2054 |
| <i>Debeshee Das (Indian Institute of Technology, India), Noble Saji Mathews (Indian Institute of Technology, India), Alex Mathai (IBM Research, India), Srikanth Tamilselvam (IBM Research, India), Kranthi Sedamaki (Indian Institute of Technology, India), Sridhar Chimalakonda (Indian Institute of Technology, India), and Atul Kumar (IBM Research, India)</i> | |

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| TEASER: Simulation-Based CAN Bus Regression Testing for Self-Driving Cars Software | 2058 |
| <i>Christian Birchler (Zurich University of Applied Sciences; University of Bern, Switzerland), Cyrill Rohrbach (University of Bern, Switzerland), Hyeongkyun Kim (University of Zurich, Switzerland), Alessio Gambi (IMC University of Applied Sciences Krems, Austria), Tianhai Liu (aicas GmbH, Germany), Jens Horneber (aicas GmbH, Germany), Timo Kehrer (University of Bern, Switzerland), and Sebastiano Panichella (Zurich University of Applied Sciences, Switzerland)</i> | |
| Provengo: A Tool Suite for Scenario Driven Model-Based Testing | 2062 |
| <i>Michael Bar-Sinai (n/a), Achiya Elyasaf (n/a), Gera Weiss (n/a), and Yeshayahu Weiss (n/a)</i> | |
| QuCAT: A Combinatorial Testing Tool for Quantum Software | 2066 |
| <i>Xinyi Wang (Simula Research Laboratory, Norway), Paolo Arcaini (National Institute of Informatics, Japan), Tao Yue (Simula Research Laboratory, Norway), and Shaukat Ali (Simula Research Laboratory; Oslo Metropolitan University, Norway)</i> | |
| ICTDroid: Parameter-Aware Combinatorial Testing for Components of Android Apps | 2070 |
| <i>Shixin Zhang (Institute of Software, Chinese Academy of Sciences; Beijing Jiaotong University, China), Shanna Li (Beijing Jiaotong University, China), Xi Deng (Institute of Software, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), Jiwei Yan (Institute of Software, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China), and Jun Yan (Institute of Software, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China)</i> | |
| LIV: Loop-Invariant Validation Using Straight-Line Programs | 2074 |
| <i>Dirk Beyer (LMU Munich, Germany) and Martin Spiessl (LMU Munich, Germany)</i> | |
| CEGAR-PT: A Tool for Abstraction by Program Transformation | 2078 |
| <i>Dirk Beyer (LMU Munich, Germany), Marian Lingsch-Rosenfeld (LMU Munich, Germany), and Martin Spiessl (LMU Munich, Germany)</i> | |
| DroneReqValidator: Facilitating High Fidelity Simulation Testing for Uncrewed Aerial Systems Developers | 2082 |
| <i>Bohan Zhang (Saint Louis University, USA), Yashaswini Shivalingaiah (Saint Louis University, USA), and Ankit Agrawal (Saint Louis University, USA)</i> | |
| MUT4SLX: Fast Mutant Generation for Simulink | 2086 |
| <i>Halil Ibrahim Ceylan (Universiteit Antwerpen), Onur Kilincceker (Universiteit Antwerpen and Flanders Make), Mutlu Beyazit (Universiteit Antwerpen and Flanders Make), and Serge Demeyer (Universiteit Antwerpen and Flanders Make)</i> | |
| AutoDebloater: Automated Android App Debloating | 2090 |
| <i>Jiakun Liu (Singapore Management University, Singapore), Xing Hu (Zhejiang University, China), Ferdian Thung (Singapore Management University, Singapore), Shahar Maoz (Tel Aviv University, Israel), Eran Toch (Tel Aviv University, Israel), Debin Gao (Singapore Management University, Singapore), and David Lo (Singapore Management University, Singapore)</i> | |

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| SpecFuzzer: A Tool for Inferring Class Specifications via Grammar-Based Fuzzing | 2094 |
| <i>Facundo Molina (IMDEA Software Institute, Spain), Marcelo d'Amorim (North Carolina State University, USA), and Nazareno Aguirre (University of Rio Cuarto and CONICET, Argentina)</i> | |
| CompSuite: A Dataset of Java Library Upgrade Incompatibility Issues | 2098 |
| <i>Xiufeng Xu (Nanyang Technological University, Singapore), Chenguang Zhu (The University of Texas at Austin, USA), and Yi Li (Nanyang Technological University, Singapore)</i> | |
| SmartBugs 2.0: An Execution Framework for Weakness Detection in Ethereum Smart Contracts .. | 2102 |
| <i>Monika di Angelo (TU Wien, Austria), Thomas Durieux (TU Delft, Netherlands), João F. Ferreira (INESC-ID and IST, University of Lisbon, Portugal), and Gernot Salzer (TU Wien, Austria)</i> | |

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