| Internetware 2022 Program (SGT UTC+8)  Day 1: 11 June, 2022 (Saturday) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| 09:00 - 09:10<br>09:10 - 10:10                                         | Opening  Keynote 1: Automated Localization and Fixing for Reproducible Builds, Prof. He Jiang                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 10:10 - 10:20                                                          | Coffee Break Android and Web Application Analysis (Session chair: TBD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 10:20 - 12:00                                                          | Functional Scenario Classification for Android Applications using GNNs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                        | Guiyin Li, Fengyi Zhu, Jun Pang, Tian Zhang, Minxue Pan and Xuandong Li.  Understanding the Impact of Visual Factors on the Experience of Loading Web Apps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                        | Qi Yang, Xinran Dong and Yun Ma.  Automatic Maturity Rating for Android Apps.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                        | Automatic Maturity Rating for Android Apps. Chenyu Zhou, Xian Zhan, Linlin Li and Yepang Liu.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                        | A novel classification approach for Android malware based on feature fusion and natural language processing. Jinfu Chen, Zian Zhao, Xiao Chen, Saihua Cai, Shang Yin and Luo Song.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                        | <i>WAIN: Automatic Web Application Identification and Naming Method.</i><br>Yuqiang Sun, Dunhan Li, Yixin Wu, Cheng Huang, Xuelin Wan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 12:00 - 14:00                                                          | Lunch Break                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 14:00 - 15: 00                                                         | Coding and Code Representation (Session chair: TBD)  Represent Code as Action Sequence for Predicting Next Method Call.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                        | Yu Jiang, Liang Wang, Hao Hu and Xianping Tao.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                        | AUGraft: Graft New API Usage into Old Code. Kai Wang and Ping Yu.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                        | Code Clone Detection based on Event Embedding and Event Dependency.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 15:00 - 15:10                                                          | Cheng Huang, Hui Zhou, Chunyang Ye and Bingzhuo Li.  Coffee Break                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 15:10 - 16:10                                                          | Keynote 2: VerCors: verified concurrent software, Prof. Marieke Huisman                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                        | Bug Localization and Program Repair (Session chair: TBD)  Bridging the Gap between Different Programming Paradigms in Coverage-based Fault Localization.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 16:10 - 17:30                                                          | Feng Li, Meng Wang and Dan Hao.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                        | Graph Neural Network based Two-Phase Fault Localization Approach. Zhengmin Li, Enyi Tang, Xin Chen, Linzhang Wang and Xuandong Li.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                        | Neural Program Repair : Systems, Challenges and Solutions. Wenkang Zhong, Chuanyi Li, Jidong Ge and Bin Luo.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                        | Enhanced Evolutionary Automated Program Repair by Finer-Granularity Ingredients and Better Search                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                        | Algorithms. Bo Wang, Guizhuang Liu, Youfang Lin, Shuang Ren, Honghui Li, Dalin Zhang                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                        | bo wang, Guzhuang Liu, Toulang Lin, Shuang Ken, Honghui Li, Daini Zhang                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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|                                                                        | Day 2: 12 June, 2022 (Sunday)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                        | Al and Software Engineering (Session chair: TBD)  Untangling Composite Commits by Attributed Graph Clustering.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 09:00 - 10:20                                                          | Siyu Chen, Shengbin Xu, Yuan Yao and Feng Xu.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                        | Incorporating Pre-trained Transformer Models into TextCNN for Sentiment Analysis on Software Engineering Texts.  Kexin Sun, Xiaobo Shi, Hui Gao, Hongyu Kuang, Xiaoxing Ma, Guoping Rong, Dong Shao, Zheng Zhao and He Zhang.  Detecting Defects in Deep Learning Systems: a Survey.  Shangyu Xing, Junjie Zhou, Fukang Zhu, Xiaowen Yang, Yu Wang and Linzhang Wang.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                                                                        | EL-CodeBert: Better Exploiting CodeBert to Support Source Code-Related Classification Tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 10:20 - 10:30                                                          | Ke Liu, Guang Yang, Xiang Chen and Yanlin Zhou.  Coffee Break                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 10.20 10.00                                                            | Complex systems Analysis (Session chair: TBD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 10:30 - 11:50                                                          | A Taxonomy for Architecting Safe Autonomous Unmanned Systems. Yixing Luo, Haiyan Zhao and Zhi Jin.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                        | An Efficient HPU Resource Virtualization Framework for Human-Machine Computing Systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                        | Hui Wang, Zhiwen Yu, Zhuoli Ren, Yao Zhang and Bin Guo.  A Preliminary Study of Bots Usage in Open Source Community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                                                        | Xiaojun Wu, Anze Gao, Yang Zhang and Tao Wang.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                        | Incremental Causal Consistency Checking for Read-Write Memory Histories. Yi Huang and Hengfeng Wei.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 11:50 - 14:00                                                          | Lunch Break                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                        | Defect Prediction and Test Selection (Session chair: TBD)  Evolutionary measures for object-oriented project and impact on the performance of cross-version defect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 14:00 - 15:20                                                          | prediction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                        | Qiao Yu, Yi Zhu, Hui Han, Yu Zhao, Shujuan Jiang, Junyan Qian  Bug Report Priority Prediction Using Developer-Oriented Socio-Technical Features.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                        | Zijie Huang, Zhiqing Shao, Guisheng Fan, Huigun Yu, Kang Yang, Zivi Zhou                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                        | Zijie Huang, Zhiqing Shao, Guisheng Fan, Huiqun Yu, Kang Yang, Ziyi Zhou  An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Ojagwei Feng,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                                                        | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng  Randoop-TSR: Random-based Test Generator with Test Suite Reduction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 15:20 - 15:30                                                          | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 15:20 - 15:30                                                          | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng Randoop-TSR: Random-based Test Generator with Test Suite Reduction. Xiangjun Liu and Ping Yu.  Coffee Break Software Analysis and Optimization (Session chair: TBD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 15:20 - 15:30                                                          | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng Randoop-TSR: Random-based Test Generator with Test Suite Reduction.  Xiangjun Liu and Ping Yu.  Coffee Break                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 15:20 - 15:30                                                          | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng Randoop-TSR: Random-based Test Generator with Test Suite Reduction.  Xiangjun Liu and Ping Yu.  Coffee Break  Software Analysis and Optimization (Session chair: TBD)  DeepLabel: Automated Issue Classification for Issue Tracking Systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 15:20 - 15:30<br>15:30 - 17:30                                         | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng Randoop-TSR: Random-based Test Generator with Test Suite Reduction.  Xianqjun Liu and Ping Yu.  Coffee Break  Software Analysis and Optimization (Session chair: TBD)  DeepLabel: Automated Issue Classification for Issue Tracking Systems.  Zhong Li, Minxue Pan, Yu Pei, Tian Zhang, Linzhang Wang and Xuandong Li.  Combining Code Context and Fine-grained Code Difference for Commit Message Generation.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                                        | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng Randoop-TSR: Random-based Test Generator with Test Suite Reduction. Xianqjun Liu and Ping Yu.  Coffee Break Software Analysis and Optimization (Session chair: TBD)  DeepLabel: Automated Issue Classification for Issue Tracking Systems. Zhong Li, Minxue Pan, Yu Pei, Tian Zhang, Linzhang Wang and Xuandong Li. Combining Code Context and Fine-grained Code Difference for Commit Message Generation. Shengbin Xu, Yuan Yao, Feng Xu, Tianxiao Gu and Hanghang Tong.  Is your access allowed or not? A Verified Tag-based Access Control Framework for the Multi-domain TEE. Xinliang Miao, Fanlang Zeng, Rui Chang, Chenyang Yu, Zijun Zhang, Liehui Jiang and Yongwang Zhao. Towards Just-In-Time Feature Request Approval Prediction.                                                                                                                                |
|                                                                        | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng Randoop-TSR: Random-based Test Generator with Test Suite Reduction. Xiangjun Liu and Ping Yu.  Coffee Break  Software Analysis and Optimization (Session chair: TBD)  DeepLabel: Automated Issue Classification for Issue Tracking Systems. Zhong Li, Minxue Pan, Yu Pei, Tian Zhang, Linzhang Wang and Xuandong Li. Combining Code Context and Fine-grained Code Difference for Commit Message Generation. Shengbin Xu, Yuan Yao, Feng Xu, Tianxiao Gu and Hanghang Tong.  Is your access allowed or not? A Verified Tag-based Access Control Framework for the Multi-domain TEE. Xinliang Miao, Fanlang Zeng, Rui Chang, Chenyang Yu, Zijun Zhang, Liehui Jiang and Yongwang Zhao. Towards Just-In-Time Feature Request Approval Prediction. Feifei Niu, Chuanyi Li, Heng Chen, Jidong Ge and Bin Luo. CaDeCFF: Compiler-Agnostic Deobfuscator of Control Flow Flattening. |
|                                                                        | An adaptive search optimization algorithm for improving the detection capability of software vulnerability.  Bo Liu, Jinfu Chen, Weijia Wang, Saihua Cai, Jingyi Chen, Qiaowei Feng Randoop-TSR: Random-based Test Generator with Test Suite Reduction. Xiangjun Liu and Ping Yu.  Coffee Break  Software Analysis and Optimization (Session chair: TBD)  DeepLabel: Automated Issue Classification for Issue Tracking Systems. Zhong Li, Minxue Pan, Yu Pei, Tian Zhang, Linzhang Wang and Xuandong Li. Combining Code Context and Fine-grained Code Difference for Commit Message Generation. Shengbin Xu, Yuan Yao, Feng Xu, Tianxiao Gu and Hanghang Tong.  Is your access allowed or not? A Verified Tag-based Access Control Framework for the Multi-domain TEE. Xinliang Miao, Fanlang Zeng, Rui Chang, Chenyang Yu, Zijun Zhang, Liehui Jiang and Yongwang Zhao. Towards Just-In-Time Feature Request Approval Prediction. Feifei Niu, Chuanyi Li, Heng Chen, Jidong Ge and Bin Luo.                                                                     |