

1. Record Nr.	UNISA996464499303316
Titolo	Search-based software engineering : 13th international symposium, SSBSE 2021, Bari, Italy, October 11-12, 2021, proceedings / / Una-May O'Reilly, Xavier Devroey (editors)
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-88106-7
Descrizione fisica	1 online resource (176 pages)
Collana	Lecture notes in computer science ; ; 12914
Disciplina	005.1
Soggetti	Software engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Message from the General Chairs -- Message from the Program Chairs -- Organization -- SSBSE'21 Tutorial: Search-Based System Testing with EvoMaster (Tutorial Paper) -- Contents -- Keynote -- On the Effectiveness of SBSE Techniques -- 1 Instance Space Analysis for SBSE -- References -- Research Papers -- Generating Failing Test Suites for Quantum Programs With Search -- 1 Introduction -- 2 Related Work -- 3 Background -- 4 Definitions -- 5 Quantum Search-Based Testing (QuSBT) -- 5.1 Failures Types, Test, and Test Assessment -- 5.2 Test Case Generation -- 6 Experimental Design -- 7 Results and Discussions -- 7.1 Results and Analyses -- 7.2 Discussion -- 8 Threats to Validity -- 9 Conclusion and Future Work -- References -- Preliminary Evaluation of SWAY in Permutation Decision Space via a Novel Euclidean Embedding -- 1 Introduction -- 2 SWAY for Permutative Decision Spaces -- 2.1 The Original SWAY -- 2.2 Preliminaries -- 2.3 Consideration of Naive Embedding -- 2.4 Motivations for Rank Based Embedding -- 3 Preliminary Evaluation: Test Case Prioritisation (TCP) -- 3.1 Performance Metrics -- 3.2 Baseline Approaches -- 3.3 SWAY for TCP -- 3.4 Benchmarks -- 3.5 Research Questions -- 4 Results -- 4.1 RQ1: How Well Does Our Approach Perform? -- 4.2 RQ2: Sensitivity of SWAY to Initial Sample Size -- 4.3 Threats to Validity -- 5 Related Work -- 6 Conclusions and Future Work -- References -- Search-Based Selection and Prioritization

of Test Scenarios for Autonomous Driving Systems -- 1 Introduction -- 2 Problem Representation and Objective Function -- 2.1 Problem Representation -- 2.2 Objective Functions -- 3 Empirical Evaluation -- 3.1 DataSet -- 3.2 Research Questions (RQs) -- 3.3 Experiment Design and Evaluation Metrics -- 3.4 Statistical Tests -- 4 Results and Analyses -- 4.1 Results of RQ1 -- 4.2 Results of RQ2 -- 4.3 Results of RQ3.
4.4 Results of RQ4 -- 4.5 Overall Discussion -- 4.6 Threats to Validity -- 5 Related Work -- 6 Conclusion and Future Work -- References -- Search-Based Automated Play Testing of Computer Games: A Model-Based Approach -- 1 Introduction -- 2 Running Example -- 3 Modelling Games -- 3.1 EFSM Notation -- 4 Problem Definition -- 5 Test Generation -- 5.1 Search-Based Test Generation -- 6 Evaluation -- 6.1 Prototype: EvoMBT -- 6.2 Models of the System Under Test -- 6.3 Experiment Setup -- 6.4 Results -- 7 Related Work -- 8 Conclusion and Future Work -- References -- Hybrid Multi-level Crossover for Unit Test Case Generation -- 1 Introduction -- 2 Background and Related Work -- 3 Approach -- 3.1 Simulated Binary Crossover -- 3.2 String Crossover -- 4 Empirical Study -- 5 Results -- 5.1 Result for RQ1: Structural Coverage -- 5.2 Result for RQ2: Fault Detection Capability -- 6 Threats to Validity -- 7 Conclusions and Future Work -- References -- Multi-objective Test Case Selection Through Linkage Learning-Based Crossover -- 1 Introduction -- 2 Background and Related Work -- 2.1 Linkage Learning -- 3 Approach -- 3.1 Linkage-Based Crossover -- 3.2 Similarity Function for Linkage Learning -- 4 Empirical Study -- 5 Results -- 6 Threats to Validity -- 7 Conclusions and Future Work -- References -- Enhancing Resource-Based Test Case Generation for RESTful APIs with SQL Handling -- 1 Introduction -- 2 Background and Related Work -- 2.1 Resource and Dependency Based MIO (Rd-MIO*) -- 2.2 SQL Handling in EvoMaster -- 2.3 REST API Testing -- 3 Resource Handling with SQL -- 4 Empirical Study -- 4.1 Experiment Setup -- 4.2 Experiment Results -- 5 Threats to Validity -- 6 Conclusions and Future Work -- References -- Replications and Negative Results -- Empirical Study of Effectiveness of EvoSuite on the SBST 2020 Tool Competition Benchmark -- 1 Introduction.
2 Empirical Study Setup -- 2.1 Benchmark Overview -- 2.2 Analysis Procedure -- 2.3 Study Questions -- 3 Empirical Study Results -- 3.1 SQ1: Object Construction Problem -- 3.2 SQ2: OO-Related Problem -- 3.3 SQ3: Large Search Space Problem -- 3.4 SQ4: Other Problem -- 3.5 SQ5: Common Major Problems -- 4 Conclusion and Future Work -- References -- Improving Android App Responsiveness Through Automated Frame Rate Reduction -- 1 Introduction -- 2 Background -- 3 Improvement of Android App Responsiveness Using GI -- 4 Methodology -- 4.1 Framework -- 4.2 Validation -- 4.3 Benchmarks: Mobile Application Selection -- 4.4 Physical Setup -- 5 Results -- 5.1 RQ1: Improvements to Responsiveness -- 5.2 RQ2: Types of Improvements -- 5.3 RQ3: Cost of Improving Responsiveness -- 6 Threats to Validity -- 7 Related Work -- 8 Conclusions and Future Work -- References -- Challenge Solutions -- Searching for Multi-fault Programs in Defects4J -- 1 Introduction -- 2 Proposed Approach -- 2.1 A Motivating Example -- 2.2 Searching for Multiple Fault Versions -- 2.3 Implementation Details -- 3 Results -- 4 Conclusion -- References -- Refining Fitness Functions for Search-Based Automated Program Repair -- 1 Introduction -- 2 Background -- 3 Experimental Design -- 4 Results and Discussion -- 5 Conclusions -- References -- Author Index.
