

Research Session 1: Handling models

Dynamic Backward Slicing of Model Transformations
Zoltán Ujhelyi, Ákos Horváth and Dániel Varró

X10X: Model Checking a New Programming Language with an "Old" Model Checker
Milos Gligoric, Peter C. Mehlitz and Darko Marinov

Finding the Optimal Balance between Over and Under Approximation of Models Inferred from Execution Logs
Paolo Tonella, Alessandro Marchetto, Cu Duy Nguyen, Kiran Lakhotia, Yue Jia and Mark Harman

Research Session 2: Fault localization

AutoFLox: An Automatic Fault Localizer for Client-Side JavaScript
Frolin Ocariza, Karthik Pattabiraman and Ali Mesbah

Tester Feedback Driven Fault Localization
Aritra Bandyopadhyay and Sudipto Ghosh

A Unified Approach For Localizing Non-Deadlock Concurrency Bugs
Sangmin Park, Richard Vuduc and Mary Jean Harrold

Research Session 3: Database & GUI testing

Empirical Studies on Test Effectiveness for Database Applications
Chixiang Zhou and Phyllis Frankl

Test Adequacy Evaluation for the User-Database Interaction
Raquel Blanco and Javier Tuya

AutoBlackTest: Automatic Black-Box Testing of Interactive Applications
Leonardo Mariani, Mauro Pezzè, Oliviero Riganelli and Mauro Santoro

Research Session 4: Constraint solving

Lightweight Data-flow Analysis for Execution-driven Constraint Solving
Junaid Haroon Siddiqui, Darko Marinov and Sarfraz Khurshid

Bounded Program Verification using an SMT solver: A Case Study
Tianhai Liu, Michael Nagel and Mana Taghdiri

Symbolic Execution with Interval Constraint Solving and Meta-Heuristic Search
Mateus Borges, Marcelo D'Amorim, Saswat Anand, David Bushnell and Corina Pasareanu

Research Session 5: Search-based testing

The Seed is Strong: Seeding Strategies in Search-based Software Testing
Gordon Fraser and Andrea Arcuri

Searching the Boundaries of a Modeling Space to Test Metamodels
Juan Cadavid, Benoit Baudry and Houari Sahraoui

Search-based Test Input Generation for String Data Types Using the Results of Web Queries
Phil McMinn, Muzammil Shahbaz and Mark Stevenson

Research Session 6: Web applications

Crawlability Metrics for Web Applications
Nadia Alshahwan, Mark Harman, Alessandro Marchetto, Roberto Tiella and Paolo Tonella

Leveraging User-Privilege Classification to Customize Usage-based Statistical Models of Web Applications

Sara Sprenkle, Camille Cobb and Lori Pollock

CrossCheck: Combining Crawling and Differencing to Better Detect Cross-Browser Incompatibilities in Web Applications

Shauvik Roy Choudhary, Mukul Prasad and Alessandro Orso

Research Session 7: Faults studies

An Empirical Study of Pre-Release Software Faults in an Industrial Product Line

Tom Devine, Katerina Goseva-Popstojanova, Sandeep Krishnan, Robyn Lutz and Jenny Li

Software Behavior and Failure Clustering: An Empirical Study of Fault Causality

Nicholas DiGiuseppe and James Jones

Random Testing: Evaluation of a Law Describing the Number of Faults Found

Manuel Oriol

Research Session 8: Test evolution

Dynamic Shape Analysis using Topological and Spectral Graph Properties

Muhammad Zubair Malik and Sarfraz Khurshid

An Effective Regression Testing Approach for PHP Web Applications

Aaron Marback, Hyunsook Do and Nathan Ehresmann

Supporting Test Suite Evolution through Test Case Adaptation

Mehdi Mirzaaghaei, Fabrizio Pastore and Mauro Pezzè

Research Session 9: Domain-specific testing

Testing Conformance of Lifecycle-Dependent Properties of Mobile Applications

Dominik Franke, Carsten Weise, Nath Prakobkosol and Stefan Kowalewski

Formal Model-Based Test for AUTOSAR multicore RTOS

Ling Fang, Takashi Kitamura and Hitoshi Ohsaki

@tComment: Testing Javadoc Comments to Detect Comment-Code Inconsistencies

Shin Hwei Tan, Darko Marinov, Lin Tan and Gary Leavens

Research Session 10: White-box techniques

Generating String Test Data for Code Coverage

Michael Beyene and James Andrews

Better Algorithms to Minimize the Cost of Test Paths

Nan Li, Fei Li and Jeff Offutt

Semantic Mutation Analysis of Floating-point Comparison

Haitao Dan and Robert Hierons

Research Session 11: State-based testing

Behaviourally Adequate Software Testing

Gordon Fraser and Neil Walkinshaw

Generating Checking Sequences for Nondeterministic Finite State Machines

Alexandre Petrenko, Adenilso Simao and Nina Yevtushenko

Evaluating Machine-Independent Metrics for State-Space Exploration
Vilas Jagannath, Matt Kirn, Yu Lin and Darko Marinov

Research Session 12: Empirical studies

Comparing the Effectiveness of Equivalence Partitioning, Branch Testing and Code Reading by Stepwise Abstraction Applied by Subjects
Natalia Juristo, Sira Vegas, Martin Solari, Silvia Abrahao and Isabel Ramos

Scalable Distributed Concolic Testing Approach: An Empirical Evaluation
Moonzoo Kim, Yunho Kim and Gregg Rothermel

Automated System Testing using Visual GUI Testing Tools: A Comparative Study in Industry
Emil Börjesson and Robert Feldt

Research Session 13: Failure analysis

CARIAL: Cost-Aware Software Reliability Improvement with Active Learning
Boya Sun, Gang Shu, Andy Podgurski and Soumya Ray

Identifying Failure-Inducing Combinations in a Combinatorial Test Set
Laleh Shikh Gholamhossein Ghandehari, Yu Lei, Tao Xie, Richard Kuhn and Raghu Kacker

Weighted System Dependence Graph
Fang Deng and James Jones

Industrial Session 1 : Case studies

Industrial Application of Concolic Testing on Embedded Software: Case Studies
Moonzoo Kim, Yunho Kim and Yoonkyu Jang

Automated Unit Testing of a SCADA Control Software: An Industrial Case Study based on Action Research
Shahnewaz Amin Jolly, Vahid Garousi and Matt M. Eskandar

A Large Scale Empirical Study on User-Centric Performance Analysis
Shahed Zaman, Bram Adams and Ahmed E. Hassan

Industrial Session 2: Analysis and validation

Analyzing a Controller of a Power Distribution Unit using Formal Methods
Jan Friso Groote, Ammar Osaiweran and Jacco Wesselius

Securing Opensource Code via Static Analysis
Raghudeep Kannavara

Towards Automated Anomaly Report Assignment in Large Complex Systems using Stacked Generalization
Leif Jonsson, David Broman, Kristian Sandahl and Sigrid Eldh

Industrial Session 3: Test automation

An Integrated Model-Driven Approach for Mechatronic Systems Testing
Roberto Silva Filho and Christof J. Budnik

CAST: Automating Software Tests for Embedded Systems
Michael Wahler, Ettore Ferranti, Robin Steiger, Rahul Jain and Kristian Nagy

When a GUI Regression Test Failed, Which Should Be Blamed?
Jin Chen, Mengxiang Lin and Kai Yu

Ph.D. Symposium

A Smart Structured Test Automation Language (SSTAL)

Nan Li

Industrial Applicability of Visual GUI testing for System and Acceptance Test Automation

Emil Börjesson

Mitigating the Effect of Coincidental Correctness in Spectrum Based Fault Localization

Aritra Bandyopadhyay

Prioritization of Test Cases using Software Agents and Fuzzy Logic

Christoph Malz, Nasser Jazdi and Peter Göhner

Towards Practical Debugging for Regression Faults

Kai Yu

Using Statistical Process Control for Root Cause Analysis of Load Test Problems

Thanh H. D. Nguyen

Web Mutation Testing

Upsorn Praphamontripong