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Automated Software Testing and Analysis: Techniques, Practices and Tools

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Abstract

As computer systems are permeating our society in daily life and are performing an increasing number of critical tasks, research in software testing and analysis has become of paramount importance. Although we are currently not able to prove program correctness for real-world applications, rigorous software development processes in combination with testing provides us with confidence in the quality of software. Software testing and analysis, however, is a very involved task. As the size and complexity of software continue to grow, manual testing becomes very tedious. Automation of software testing and tool support for testing, therefore, have been emerging as a key technology to quality assurance of today's software industry. As research in software testing and analysis has become increasingly active, there is also a growing trend towards combining formal methods and informal techniques for program verification.

Disciplines

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Automated Software Testing and Analysis: Techniques, Practices and Tools

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As computer systems are permeating our society in daily life and are performing an increasing number of critical tasks, research in software testing and analysis has become of paramount importance. Although we are currently not able to prove program correctness for real-world applications, rigorous software development processes in combination with testing provides us with confidence in the quality of software. Software testing and analysis, however, is a very involved task. As the size and complexity of software continue to grow, manual testing becomes very tedious. Automation of software testing and tool support for testing, therefore, have been emerging as a key technology to quality assurance of today's software industry. As research in software testing and analysis has become increasingly active, there is also a growing trend towards combining formal methods and informal techniques for program verification.

The HICSS Minitrack Automated Software Testing and Analysis: Techniques, Practices and Tools is within the Software Technology Track. The aim of this Minitrack is to bring together researchers and practitioners to present their research results and exchange ideas and experience in software testing and analysis, especially in their automation and/or tool support, and in the combination of formal methods and informal techniques.

This Minitrack received eight submissions, one of which was withdrawn later. The Program Committee has selected five papers. Each submission was reviewed by at least three referees, and papers were selected in the later stage of a two-week discussion phase. We would like to thank the members of the Program Committee for their hard work.

The accepted papers were from the following institutions and companies around the world: ETH Zurich (Switzerland), AXA Rosenberg (USA), Indian

Institute of Technology Kanpur (India), Hewlett-Packard Laboratories (USA), Swinburne University of Technology (Australia), The University of Hong Kong (Hong Kong), East China Normal University (China), University of Perpignan (France), CNRS (France), and The University of Manchester (UK).

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