

Call for Papers
Special issue of IEEE Transactions on Software Engineering
Search-Based Optimization for Software Engineering

Guest Editors:

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Software engineering is essentially a search for a solution which balances many competing constraints to achieve optimal or near optimal result. Currently this search process is highly labour-intensive human activity. It cannot scale to meet the demands of the new and emerging software engineering paradigms. A growing trend has begun in recent years to move software engineering problems from human-based search to machine-based search. As a result, human effort is moving up the abstraction chain to focus on guiding the automated search, rather than performing the search itself. This emerging software engineering paradigm is known as Search-Based Software Engineering.

Search-Based Software Engineering (SBSE) uses search based optimisation techniques, notably those from the operations research and metaheuristic algorithms communities to automate the search for optimal or near optimal solutions to software engineering problems. The SBSE approach can and has been applied to many problems in software engineering that span the spectrum of activities from requirements to maintenance and re-engineering. Already, success has been achieved in requirements, project planning and management, testing, maintenance and reverse engineering.

This special issue seeks original manuscripts on SBSE. Search-based techniques may include, but are not limited to evolutionary algorithms, gradient ascent/descent, particle swarm intelligence, simulated annealing, tabu search, ant colony optimization. Papers that use traditional OR optimization techniques such as linear programming and branch and bound will also be admissible as well as hybrids that combine several techniques. Application areas of interest include any area of software engineering that may be typically be published in TSE.

Papers are solicited that describe basic or applied research on any of the above topics. Abstracts should be emailed to **both** the guest editors at

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followed a week later by full papers submissions via: <https://mc.manuscriptcentral.com/cs-ieee>.

Submissions must conform to the journal's submission guidelines and must not have been published previously or be currently under consideration for publication in any other journals or conferences. Significant extensions to substantive papers published in conferences are also welcome.

Important Dates:

Guest Editors receive emailed titles and abstracts by	25-Aug-08
Full paper submissions submitted into Manuscript Central by	1-Sep-08
First Round of Reviews Completed by	20-Dec-08
Major Revisions Due by	30-Mar-09
Second Round of Reviews Completed by	15-Jun-09
Minor Revisions Due by	30-Jun-09
Final Acceptances Given to Authors by	15-Jul-09
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