



## Information Sciences

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### Special Issue Call for Papers

## “Data Mining for Software Trustworthiness”

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#### Aims and Scope

As the modern society becomes increasingly dependent on software, the cost and consequences of software failures become more and more serious. How to develop software systems that can be justifiably trusted is considered a critical issue by academia, government, and industry. In the National Software Strategy Steering Group's 2005 report - Software 2015: A National Software Strategy to Ensure U.S. Security and Competitiveness, *software trustworthiness* is listed as one of the four most important focuses of future research. The National Science Foundation funded about USD 150 million in projects related to Software Trustworthiness and the National Science Foundation of China (NSFC) funded CNY 150 million (about USD 22 million) in the Fundamental Research on Trustworthy Software Program.

Data mining and knowledge discovery (DMKD), which develops methods, algorithms, and techniques to extract useful information from huge amounts of data, emerged in 1990s and grew rapidly since then. Data mining techniques, such as classification, association, and clustering, can be used to analyze different types of software engineering data to assist

substantially in building software trustworthiness. Data mining for software trustworthiness has been an active research area in the past decade. Many data mining methods, techniques, and tools have been developed to support various aspects of software development, including software design, programming, testing, deployment, and maintenance. Although there are successful cases, the complexity in building software trustworthiness requires specialized data mining methods and techniques.

This special issue seeks articles from researchers and practitioners from all related disciplines, and it will focus on theoretical and practical issues about data mining for software trustworthiness. Topics of interest include (but not limited to) the following:

- Data mining for software trustability analysis
- Measurements and models for software trustworthiness
- Data mining techniques for software programming, debugging, testing, and maintenance
- Data mining and knowledge discovery in software engineering

### **Tentative Schedule**

Submission of manuscripts:	Dec 31, 2009
First revision notification:	Mar 30, 2010
Submission of revised papers:	Jun 30, 2010
Second revision notification:	Sep 30, 2010
Submission of final revised paper:	Dec 31, 2010
Final Acceptance/Rejection notice:	Jan 10, 2011

### **Submission Instructions**

Papers will be evaluated on their merits, depth of knowledge, application in industry, contribution to the field, suitability to the special issue, and overall quality. All papers will be rigorously refereed by 2 or 3 peer reviewers of the Journal. Submission of a manuscript to this special issue implies that no similar paper is already accepted or will be submitted to any other conference or journal. Authors should consult the "Guide for Authors", which is available online at [http://www.elsevier.com/wps/find/journaldescription.cws\\_home/505730/authorinstructions](http://www.elsevier.com/wps/find/journaldescription.cws_home/505730/authorinstructions), for information about preparation of their manuscripts. Manuscripts should be submitted via the Elsevier Editorial System <http://ees.elsevier.com/ins/>. Please choose "**Spec.Iss.: Software Trustworthiness**" when you reach the Article Type step. First time users need register themselves as author.