IEEE Transactions on Reliability
Special Section on Safety and Security
of System Software

Call for Papers

Background

With the rapid advancement of computing technology, new system software in domains such as AI, big data, CPS and IoT have emerged. While such system software helps the development of new applications in the new computing paradigms, it also brings new challenges and concerns, especially in system safety and security. There have already been reports on attacks on such new system software that have resulted in privacy leakage and property loss. The problem will be even more severe if the system software is deployed in a safety-critical system.

To address this problem, IEEE Transactions on Reliability (TRel) solicits original work that makes novel theoretical or practical contributions to enhance the safety and security of system software for emerging computing paradigms. Papers will be reviewed and selected based on their innovation, technical correctness, presentation, and practical relevance.

This special section is a collaboration between IEEE Transactions on Reliability and the technical committee of system software and software engineering of China Computation Federation (CCF). The papers that pass the first round of review must be presented at the 17th National Software Application Conference (NASAC 2018). The final decision will be given after the presentation and the second round of review.

Topics

Submissions related to the following topics are encouraged. However, others relevant to safety and security of system software for emerging computing paradigms are also welcome. Their practical applications will be considered as well.

- Reliability, security, and safety of system software
- Testing, verification, and validation
- Maintenance and evolvement
- Architecture and modeling
- Advanced methods for error detection, fault tolerance, and debugging
- Software quality, metrics and measurements, estimation and prediction of quality/reliability
- Dependability, survivability, and resilience study
- Supporting tools and automation
- Empirical study
- Novel interdisciplinary research

Submission

We welcome high quality submissions that are neither published nor currently under submission elsewhere. We also encourage extensions to conference papers, unless prohibited by copyright, if there is a significant difference in the technical content. Improvements such as adding a new case study or including a description of additional related studies do not satisfy this requirement. The overlap between each extension and the original article should be less than 30%.

1. Each submission must conform to the single-space two-column format of printed articles in the IEEE Transactions on Reliability with all figures and tables embedded in the paper, rather than listed at the end or in the appendix.
2. For the initial submission, authors must submit their manuscripts simultaneously to **both** NASAC and TRel, by following the two links below. The reviewers for the two submission sites are identical.
   - NASAC: https://easychair.org/my/conference.cgi?conf=nasac2018

(For manuscript type, choose "select NASAC Safety and Security of System Software track")
- IEEE Transactions on Reliability: https://mc.manuscriptcentral.com/tr-ieee
  (For manuscript type, choose "Special Section on Safety and Security of System Software")
  The papers that pass the first round of review are invited to present at NASAC.

3. Based on the comments given in the first round of review and during the oral presentation at NASAC, authors are invited to submit their revised papers to TRel only using the aforementioned submission link. These manuscripts will be treated as revisions by TRel.

4. Authors are required to submit their final revision based on the comments given in the second round of review. TRel will give the final decisions based on the recommendations by the guest editors.

Note that the conference will not have formal proceedings. The only publication venue for this special track is the IEEE Transactions on Reliability.

Important Dates

•	June 1, 2018	•	Paper submission due
•	Aug 15, 2018	•	First round notification
•	Sep 15, 2018	•	First round revised paper due
•	Nov 23-25, 2018	•	NASAC 2018 Presentation
•	Dec 1, 2018	•	Second round notification
•	Jan 1, 2019	•	Second round revised paper due
•	Feb 15, 2019	•	Final notification

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