

Call for Papers

----- Special Section on Formal Approaches -----

The IEICE Transactions on Information and Systems announces a forthcoming special section on Formal Approaches to be published in October 2021.

Formal methods and techniques play a key role in designing and developing highly reliable information systems and embedded systems. The last decades have seen various new techniques and profound theoretical results using formal methods in surprisingly many fields such as modeling, requirements analysis, specification, automatic generation of codes, testing, verification, and maintenance. They are rapidly extending their application domains as a result of the recent growth of information and communication technologies.

The Special Section on Formal Approaches aims at stimulating research on formal approaches to information systems and embedded systems, ranging from fundamental theory to practical applications. Our emphasis is put on the cross-fertilization of related research fields and encouragement of young researchers.

1. Topics

The major topics are listed below, but we solicit submissions in all areas of formal approaches, i.e., first to formalize information systems, embedded systems, and their environment, next to analyze their behavior and to derive their properties rigorously, and then to solve various problems in designing and managing the systems.

- **Theoretical foundations:** all aspects of theory related to formal description and verification for structure and behavior of systems.
- **Formal techniques:** techniques for mainly describing and analyzing systems, such as software, hardware and networks.
- **Formal tools:** tools based on formal methods such as model checkers, theorem provers, and static and dynamic analyzers.
- **Applications:** practical experiences of applying formal methods to information systems, embedded systems, circuits, security, AI systems, machine learning systems, multi-agent systems, automotive systems, etc.
- **Education:** education on formal methods.

2. Submission Instructions

- The deadline for submission is Oct 23, 2020, 23:59 JST(GMT+9).
- Manuscripts should be carefully prepared according to the guideline in the "Information for Authors" (available at http://www.ieice.org/eng/shiori/mokuji_iss.html). The preferred length of the manuscript is 8 pages.
- Only electronic submission through the web page is accepted. Submit a complete paper and transfer copyright of the paper using the IEICE Web site (https://review.ieice.org/regist/regist_baseinfo_e.aspx). Authors should choose the "[Special FO] Formal Approaches" as a "Journal/Section" on the online screen.

3. Special Section Editorial Committee

Guest Editor-in-Chief:

Fuyuki Ishikawa (National Institute of Informatics)

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Further information may be obtained from the web page at: <http://research.nii.ac.jp/FA2020/>. All inquiries should be sent to the guest editor in chief:

Fuyuki Ishikawa

National Institute of Informatics

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4. Important Dates:

Submission Deadline: Oct 23, 2020 23:59 JST (GMT+9) [strict]

First Notification: Dec 22, 2020

Revised Version Deadline: Feb 19, 2021

Final Notification: Mar 30, 2021

* Important Notice *

- (1) At least one of the authors must be an IEICE member when the manuscript is submitted for review. For the application of IEICE membership, visit https://www.ieice.org/eng_r/join/individual_member.html

- (2) When a paper has been accepted for publication, the authors are required to pay the page charges covering part of the cost of publication. Please carefully read the submission guideline at https://www.ieice.org/eng/shiori/mokuji_iss.html
- (3) Upon accepted for publication, all authors, including authors of invited papers, should pay the page charges covering partial cost of publication around June, 2021. If payment is not completed by July 15, 2021, your manuscript will be handled as rejection.
- (4) [Open Access Option] Papers published in January 2019 issue and following issues will be offered a trial basis option which can make the papers open access if authors pay an additional charge on top of the usual page charge. For details on open access options, please carefully refer to “The Information for Authors” (https://www.ieice.org/eng/shiori/mokuji_iss.html). Note that open access option is still in the pre-trial stage, and it may be changed without notice.