

CONFERENCE  
WEBSITE:

<https://conf.researchr.org/track/icse-2027/icse-2027-research-track>

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## | About the Conference

### Call for Papers

The International Conference on Software Engineering (ICSE) is the premier forum for presenting and discussing the most recent and significant technical research contributions in the field of Software Engineering. In the research track, we invite high-quality submissions of technical research papers describing original and unpublished results of software engineering research.

ICSE 2027 will follow a single deadline structure. In other words, submissions will occur in one cycle. Further details in the section on Single Submission Cycle below.

### Research Areas

ICSE welcomes submissions addressing topics across the full spectrum of Software Engineering, namely quantitative, qualitative, and mixed-methods research. Topics of interest include the following, grouped into nine research areas. Please note that these topics are by no means exhaustive.

### Important Dates

APR  
27

CONFERENCE  
DATE  
**April 27 -  
May 1,  
2027**

Each submission will need to indicate one of these nine areas as the chosen area. Optionally, the authors can consider adding an additional area. A paper may be moved from the chosen area(s) to another focus area at the discretion of the program chairs. Program chairs will ultimately assign a paper to an area chair, considering the authors' selection, the paper's content, and other factors such as (if applicable) possible conflicts of interest.

## AI for Software Engineering

AI-enabled recommender systems for automated SE (e.g., code generation, program repair, AIOps, software composition analysis, etc.)

Human-centered AI for SE (e.g., how software engineers can synergistically work with AI agents)

Trustworthy AI for SE (e.g., how to provide guarantees, characterize limits, and prevent misuse of AI for SE)

Sustainable AI for SE (e.g., how to reduce energy footprint for greener AI for SE)

Collaborative AI for SE (e.g., how AI agents collaborate for automating SE)

Automating SE tasks with LLM and other foundation models (e.g., large vision model)

Efficacy measurement beyond traditional metrics (e.g., accuracy, BLEU, etc.)

Prompt engineering for SE (e.g., novel prompt design)

AI-assisted software design and model driven engineering (e.g., specification mining, program synthesis, software architectural design)

Analytics

Mining software repositories, including version control systems, issue tracking systems, software ecosystems, configurations, app stores, communication platforms, and novel software engineering data sources, to generate insights through various research methods

Software visualization

Data-driven user experience understanding and improvement

Data driven decision making in software engineering

Software metrics (and measurements)

Architecture and Design

Architecture and design measurement and assessment

Software design methodologies, principles, and strategies

Theory building for/of software design

Architecture quality attributes, such as security, privacy, performance, reliability

Modularity and reusability

Design and architecture modeling and analysis

Architecture recovery

Dependency and complexity analysis

Distributed architectures, such as microservice, SOA, cloud computing

Patterns and anti-patterns

Technical debt in design and architecture

Architecture refactoring

Adaptive architectures

Architecture knowledge management

Dependability and Security

Formal methods and model checking (excluding

solutions focusing solely on hardware)  
Reliability, availability, and safety  
Resilience and antifragility  
Confidentiality, integrity, privacy, and fairness  
Performance  
Design for dependability and security  
Vulnerability detection to enhance software  
security  
Dependability and security for embedded and  
cyber-physical systems  
Evolution

Evolution and maintenance  
API design and evolution  
Release engineering and DevOps  
Software reuse  
Refactoring and program differencing  
Program comprehension  
Reverse engineering  
Environments and software development tools  
Traceability to understand evolution  
Human and Social Aspects

Focusing on individuals (from program  
comprehension, workplace stress to job  
satisfaction and career progression)  
Focusing on teams (e.g., collocated, distributed,  
global, virtual; communication and collaboration  
within a team), communities (e.g., open source,  
communities of practice) and companies  
(organization, economics)  
Focusing on society (e.g., sustainability; diversity  
and inclusion)  
Focusing on programming languages,  
environments, and tools supporting individuals,  
teams, communities, and companies.

Focusing on software development processes

Requirements and Modeling

Requirements engineering (incl. non-functional requirements)

Theoretical requirement foundations

Requirements and architecture

Feedback, user and requirements management

Requirements traceability and dependencies

Modeling and model-driven engineering

Variability and product lines

Systems and software traceability

Modeling languages, techniques, and tools

Empirical studies on the application of model-based engineering

Model-based monitoring and analysis

Software Engineering for AI

SE for AI models

SE for systems with AI components

SE for AI code, libraries, and datasets

Engineering autonomic systems and self-healing systems

Automated repair of AI models

Testing and verification of AI-based systems

Validation and user-based evaluation of AI-based systems

Requirements engineering for AI-based systems

Testing and Analysis

Software testing

Automated test generation techniques such as fuzzing, search-based approaches, and symbolic execution

Testing and analysis of non-functional properties

GUI testing

Mobile application testing

Program analysis

Program synthesis (e.g., constraint based techniques)

Program repair

Debugging and fault localization

Runtime analysis and/or error recovery

Scope

Since the authors will choose an area for their submission, the scope of each area becomes important. Some submissions may relate to multiple areas. In such cases, the authors should choose the area for which their paper brings the maximum new insights. Moreover, authors also have the choice of indicating an alternate area for each paper.

Similarly, for certain papers, authors may have a question whether it belongs to any area, or is simply out of scope. For such cases, we recommend that the authors judge whether their paper brings new insights for software engineering. As an example, a formal methods paper with a focus on hardware verification may be deemed out of scope for ICSE. In general, papers that only peripherally concern software engineering and do not give new insights from the software engineering perspective would be less relevant to ICSE. Our goal, however, is to be descriptive rather than prescriptive, enabling authors to make their own decisions about relevance.

Single Submission Cycle

ICSE 2027 will have one submission cycle as follows:

(Mandatory) Abstract: June 23, 2026

Submission: June 30, 2026

Author response period (3 days): September 23-25, 2026

Notification: October 20, 2026

Revision due: November 17, 2026

Camera-ready (of directly accepted papers):

November 24, 2026

Final decision (of major revision papers):

December 18, 2026

Camera-ready (of accepted major revision papers):

January 25, 2027

All dates are 23:59:59 AoE (UTC-12h).

#### Review Criteria

Each paper submitted to the Research Track will be evaluated based on the following criteria:

i) Novelty: The novelty and innovativeness of contributed solutions, problem formulations, methodologies, theories, and/or evaluations, i.e., the extent to which the paper is sufficiently original with respect to the state-of-the-art.

ii) Rigor: The soundness, clarity, and depth of a technical or theoretical contribution, and the level of thoroughness and completeness of an evaluation.

iii) Relevance: The significance and/or potential impact of the research on the field of software engineering.

iv) Verifiability and Transparency: The extent to which the paper includes sufficient information to

understand how an innovation works; to understand how data was obtained, analyzed, and interpreted; and how the paper supports independent verification or replication of the paper's claimed contributions. Any artifacts attached to or linked from the paper will be checked by one reviewer.

v) Presentation: The clarity of the exposition in the paper.

Reviewers will carefully consider all the above criteria during the review process, and authors should take great care in clearly addressing them all. The paper should clearly explain and justify the claimed contributions. Each paper will be handled by an area chair who will ensure reviewing consistency among papers submitted within that area.

The outcome of each paper will be one of the following Accept, Major Revision, Reject. We now elaborate on the Major Revision outcome in the following.

### Major Revisions

Papers submitted can go through major revisions in response to specific revision requests made by the reviewers. Authors of papers receiving a Major Revision decision are expected to submit the revised papers, as well as the revised papers with changes marked in a different colour, such as using LaTeXdiff. The authors also need to submit an "Author Response" document capturing the authors' response to each reviewer's comment and how those comments were addressed in the

revision. This is similar to the “Summary of Changes and Response” document that is typically submitted by authors for a journal paper’s major revision. Authors may use the revision opportunity to revise and improve the paper, but should not use this to submit a substantially different paper. The reviewers will check the revised paper against the original paper and the suggested changes. The same set of reviewers will examine revised papers. An unsatisfactory revised paper will be rejected. Authors are given approximately 4 weeks to submit the revised papers. Authors are given an additional page of text in a revised paper to accommodate the required changes specified in the reviews.

#### Submission Process

All submissions must conform to the IEEE conference proceedings template, specified in the IEEE Conference Proceedings Formatting Guidelines (title in 24pt font and full text in 10pt type, LaTeX users must use `\documentclass[10pt,conference]{IEEEtran}` without including the `compsoc` or `compsocconf` options). Note that IEEE format is being used this year, whereas last year it was ACM format.

All submissions must not exceed 10 pages for the main text, inclusive of all figures, tables, appendices, etc. Two more pages containing only references are permitted. All submissions must be in PDF. Accepted papers will be allowed one extra page for the main text of the camera-ready version.

Submissions must strictly conform to the IEEE

conference proceedings formatting instructions specified above. Alterations of spacing, font size, and other changes that deviate from the instructions may result in desk rejection without further review.

By submitting to the ICSE Technical Track, authors acknowledge that they are aware of and agree to be bound by the ACM Policy and Procedures on Plagiarism and the IEEE Plagiarism FAQ. In particular, papers submitted to ICSE 2027 must not have been published elsewhere and must not be under review or submitted for review elsewhere whilst under consideration for ICSE 2027.

Contravention of this concurrent submission policy will be deemed a serious breach of scientific ethics, and appropriate action will be taken in all such cases. To check for double submission and plagiarism issues, the chairs reserve the right to (1) share the list of submissions with the PC Chairs of other conferences with overlapping review periods and (2) use external plagiarism detection software, under contract to the ACM or IEEE, to detect violations of these policies.

If the research involves human participants/subjects, the authors must adhere to the ACM Publications Policy on Research Involving Human Participants and Subjects. Upon submitting, authors will declare their compliance with such a policy. Alleged violations of this policy or any ACM Publications Policy will be investigated by ACM and may result in a full retraction of your paper, in addition to other potential penalties, as per ACM Publications Policy.

Please ensure that you and your co-authors obtain an ORCID ID, so you can complete the publishing

process for your accepted paper. ACM and IEEE have been involved in ORCID and may collect ORCID IDs from all published authors. We are committed to improve author discoverability, ensure proper attribution and contribute to ongoing community efforts around name normalization; your ORCID ID will help in these efforts.

The ICSE 2027 Research Track will employ a double-anonymous review process. Thus, no submission may reveal its authors' identities. The authors must make every effort to honor the double-anonymous review process. In particular: Authors' names must be omitted from the submission.

All references to the author's prior work should be in the third person.

While authors have the right to upload preprints on ArXiv or similar sites, they must avoid specifying that the manuscript was submitted to ICSE 2027.

To facilitate double-anonymous reviewing, we recommend authors to postpone publishing their submitted work on arXiv or similar sites until after notification

All communication with the program committee must go through the program committee chairs. Do not contact individual program committee members regarding your submission.

Further advice, guidance, and explanation about the double-anonymous review process can be found on the Q&A page.

By submitting to the ICSE Research Track, authors acknowledge that they conform to the authorship policy of the IEEE, submission policy of the IEEE, and the authorship policy of the ACM (and

associated FAQ). This includes following these points related to the use of Generative AI:

“Generative AI tools and technologies, such as ChatGPT, may not be listed as authors of an ACM published Work. The use of generative AI tools and technologies to create content is permitted but must be fully disclosed in the Work. For example, the authors could include the following statement in the Acknowledgements section of the Work:

“ChatGPT was utilized to generate sections of this Work, including text, tables, graphs, code, data, citations, etc.” If you are uncertain about the need to disclose the use of a particular tool, err on the side of caution, and include a disclosure in the acknowledgements section of the Work.” - ACM

“The use of artificial intelligence (AI)-generated text in an article shall be disclosed in the acknowledgements section of any paper submitted to an IEEE Conference or Periodical. The sections of the paper that use AI-generated text shall have a citation to the AI system used to generate the text.” - IEEE

“If you are using generative AI software tools to edit and improve the quality of your existing text in much the same way you would use a typing assistant like Grammarly to improve spelling, grammar, punctuation, clarity, engagement or to use a basic word processing system to correct spelling or grammar, it is not necessary to disclose such usage of these tools in your Work.” - ACM

Submissions to the Technical Track that meet the above requirements can be made via the Research Track submission site by the submission deadline. Any submission that does not comply with these requirements may be desk rejected without further review.

Submission site: <https://icse2027-research.hotcrp.com/>

We encourage the authors to upload their paper info early (and can submit the PDF later) to properly enter conflicts for double-anonymous reviewing. It is the sole responsibility of the authors to ensure that the formatting guidelines, double anonymous guidelines, and any other submission guidelines are met at the time of paper submission.

IEEE Transactions on Software Engineering, ACM Transactions on Software Engineering and Methodology and ICSE 2027, have received approval from the ICSE Steering Committee to launch and participate in the Sustainable Community Review Effort (SCRE) program, aimed at reducing community effort in reviewing journal extensions of conference papers and allowing authors to get faster and more consistent feedback. More information is available at this link.

#### Open Science Policy

The research track of ICSE 2027 is governed by the ICSE 2027 Open Science policies. The guiding principle is that all research results should be accessible to the public and, if possible, empirical studies should be reproducible. In particular, we actively support the adoption of open artifacts and open source principles. We encourage all contributing authors to disclose (anonymized and curated) data/artifacts to increase reproducibility and replicability. Note that sharing research artifacts is not mandatory for submission or

acceptance. However, sharing is expected to be the default, and non-sharing needs to be justified. We recognize that reproducibility or replicability is not a goal in qualitative research and that, similar to industrial studies, qualitative studies often face challenges in sharing research data. For guidelines on how to report qualitative research to ensure the assessment of the reliability and credibility of research results, see this curated Q&A page.

Upon submission to the research track, authors are asked

to make their artifact available to the program committee (via upload of supplemental material or a link to an anonymous repository) - and provide instructions on how to access this data in the paper; or

to include in the submission an explanation as to why this is not possible or desirable; and

to indicate in the submission why they do not intend to make their data or study materials publicly available upon acceptance, if that is the case. The default understanding is that the data and/or other artifacts will be publicly available upon acceptance of a paper.

#### Withdrawing a Paper

Authors can withdraw their paper at any moment until the final decision has been made, through the paper submission system. Resubmitting the paper to another venue before the final decision has been made without withdrawing from ICSE 2027 first is considered a violation of the concurrent submission policy, and will lead to automatic rejection from ICSE 2027 as well as any other venue adhering to this policy. Such violations may

also be reported to appropriate organizations e.g. ACM and IEEE.

### Conference Attendance Expectation

If a submission is accepted, at least one author of the paper is required to register for ICSE 2027 and present the paper. We are assuming that the conference will be in-person, and if it is virtual or hybrid, virtual presentations may be possible.

These matters will be discussed with the authors closer to the date of the conference.

### Important Dates AoE (UTC-12h)

Tue 23 Jun 2026new

(Mandatory) Abstract

Tue 30 Jun 2026new

Submission

Fri 25 Sep 2026new

Author response period (3 days)

Tue 20 Oct 2026new

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Revision due

Tue 24 Nov 2026new

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Fri 18 Dec 2026new

Final decision (of major revision papers)

Mon 25 Jan 2027new

Camera-ready (of accepted major revision papers)

Submission Link

<https://icse2027-research.hotcrp.com/>

#### **TOPICS OF INTEREST**

1 topics

Research papers are invited in, but not limited to, the following areas:

Computer Science  
◦ & Software  
Engineering

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