# SCIENTIFIC AND TECHNICAL COMMUNICATION INF6900A/INF7900

**Software Engineering and Analysis** 

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Conferences in Software Engineering

### **ICSE**

### (International Conference on Software Engineering)

### Many different tracks

ICSE 2025 Research Track SE In Practice (SEIP) SE in Society (SEIS) New Ideas and Emerging Results (NIER) Journal-first Papers Demonstrations Artifact Evaluation Industry Challenge Track Software Engineering Education **Posters Doctoral Symposium** Shadow PC Workshops **Tutorials and Technical Briefings** New Faculty Symposium SRC - ACM Student Research Competition Student Mentoring Workshop (SMeW)

For example, Research areas in Research Track

- ➤ AI for software engineering
- Analytics
- Architecture and design
- Dependability and security
- Evolution
- Hunan and social aspects
- Requirements and modeling
- Software engineering and AI
- Testing and analytics



https://conf.researchr.org/home/icse-2025

### **ICSE**

### (International Conference on Software Engineering)

## Submission process (Research track)

- 1. 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.
- 2. Submissions must strictly conform to the IEEE conference proceedings formatting instructions.
- 3. By submitting to the ICSE Technical Track, authors acknowledge that they are aware of and agree to be bound by the <u>ACM Policy and Procedures on Plagiarism</u> and the <u>IEEE Plagiarism FAQ</u>. In particular, papers submitted to ICSE 2025 must not have been published elsewhere and must not be under review or submitted for review elsewhere whilst under consideration for ICSE 2025.
- 4. If the research involves human participants/subjects, the authors must adhere to the <u>ACM Publications Policy on Research Involving Human Participants and Subjects</u>.
- 5. Please ensure that you and your co-authors obtain an ORCID ID, so you can complete the publishing process for your accepted paper.
- 6. The ICSE 2025 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.
- 7. By submitting to the ICSE Research Track, authors acknowledge that they conform to the <u>authorship policy of the IEEE</u>, submission policy of the IEEE, and the <u>authorship policy of the ACM</u> (and associated FAQ).



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## Review criteria (Research track)

- 1. Novelty
- 2. Rigor
- 3. Relevance
- 4. Verifiability and transparency
- 5. Presentation

## **FSE**(Foundations of Software Engineering)



### Many different tracks

FSE 2025
How to Submit
Research Papers
Industry Papers
Ideas, Visions and Reflections
Journal First
Student Research Competition
Demonstrations
Posters
Artifacts
Doctoral Symposium
New Faculty Symposium
Tutorials
Student Volunteers
Industry Mentoring Symposium
Workshops
Open Science Policy

For example, Research areas in Research Track

- > Artificial intelligence and machine learning for software engineering
- Human-computer interaction
- Mining software repositories
- Model checking
- Debugging and fault localization
- Program synthesis
- Software architectures
- Software engineering for machine learning and artificial intelligence
- > Software evolution
- Software testing
- > Tools and environments

### **FSE**

### (Foundations of Software Engineering)

## Submission process (Research track)

- 1. At the time of submission, each paper should have no more than 18 pages for all text and figures, plus 4 pages for references, using the following templates: <u>Latex</u> or <u>Word (Mac)</u> or <u>Word (Windows)</u>. Papers may be submitted using numeric citations, but final versions of accepted papers must use the author-year format for citations.
- 2. Each submission will be reviewed by at least three members of the program committee. The review process is that the initial output can be accept, reject or **major revision**. When the initial output of the three reviews is major revision, authors will have an opportunity to address the reviewers' requests during a **6-week** major revision period. The same reviewers who requested major revisions will then assess whether the revised submission satisfies their requests adequately.
- 3. In order to ensure the fairness of the reviewing process, the FSE 2025 Research Papers Track will employ a double-anonymous review process, where reviewers do not know the identity of authors, and authors do not know the identity of external reviewers.
- 4. The authors must follow the "ACM Policy on Authorship" released April 20, 2023 and its accompanying FAQ.
- 5. Papers submitted for consideration to FSE should not have been already published elsewhere and should not be under review or submitted for review elsewhere during the reviewing period. Specifically, authors are required to adhere to the <u>ACM Policy and Procedures on Plagiarism</u> and the <u>ACM Policy on Prior Publication and Simultaneous Submissions</u>.
- 6. By submitting your article to an ACM Publication, you are hereby acknowledging that you and your co-authors are subject to all <u>ACM Publications Policies</u>, including ACM's new <u>Publications Policy on Research Involving Human Participants and Subjects</u>. All publications are subject to the <u>ACM Author Representations policy</u>.
- 7. Please ensure that you and your co-authors obtain an ORCID ID, so you can complete the publishing process if your paper is accepted.



## Review criteria (Research track)

- 1. Originality
- 2. Importance of contribution
- 3. Soundness
- 4. Quality of presentation
- 5. Appropriate comparison of related work

### **ASE**

### (Automated Software Engineering)

## ASE 2024 Sun 27 October - Fri 1 November 2024 Sacramento, California, United State

https://conf.researchr.org/home/ase-2024

### Many different tracks

ASE 2024 Research Papers Industry Showcase Journal-first Papers **Artifact Evaluation Track Posters Tool Demonstrations** NIER Track Student Research Competition Most Influential Papers (MIP) **Doctoral Symposium Tutorials** Workshops Keynotes [Workshop] RENE [Workshop] ASYDE [Workshop] HCSE&CS [Workshop] A-Mobile [Workshop] VARSE

For example, Research areas in Research Track

- Requirements and Design
- Testing and Analysis
- **Tools and Processes**
- Maintenance and Evolution
- Formal Aspects of Software Engineering
- AI and Software Engineering
- Software Analytics
- **Human Aspects of Software Engineering**
- Social Aspects of Software Engineering
- Dependability, Safety, and Reliability

### https://conf.researchr.org/home/ase-2024



### **ASE**

### (Automated Software Engineering)

## Submission process (Research track)

- 1. Submissions must not exceed 10 pages for the main text, including all figures, tables, appendices, etc. Up to two additional pages containing ONLY references are permitted.
- 2. Papers submitted to ASE 2024 must not have been published elsewhere and must not be under review or submitted for review elsewhere when being considered for ASE 2024. Authors should be aware of the <u>ACM Policy and Procedures on Plagiarism</u> and the <u>IEEE Plagiarism FAQ</u>.
- 3. The ASE 2024 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.
- 4. We actively support and encourage all contributing authors to disclose (anonymized and curated) data to increase reproducibility and replicability. Upon submission, authors are asked to make their data available to the program committee (via upload of supplemental material or a link to an anonymous repository) or explain why this is not possible or desirable.
- 5. If work reported in the paper involves human subjects, authors will be required to affirm compliance with the ACM Policy on Research Involving Humans as part of the submission process: <a href="https://www.acm.org/publications/policies/research-involving-human-participants-and-subjects">https://www.acm.org/publications/policies/research-involving-human-participants-and-subjects</a>.
- 6. All submissions must be in PDF format and conform, at time of submission, to the to the ACM Proceedings Template: <a href="https://www.acm.org/publications/proceedings-template">https://www.acm.org/publications/proceedings-template</a>.
- 7. By submitting your article to an ACM Publication, you are hereby acknowledging that you and your co-authors are subject to all ACM Publications Policies, including ACM's new <u>Publications Policy on Research Involving Human Participants and Subjects</u>.
- 8. Please ensure that you and your co-authors obtain an ORCID ID, so you can complete the publishing process for your accepted paper.

## Review criteria (Research track)

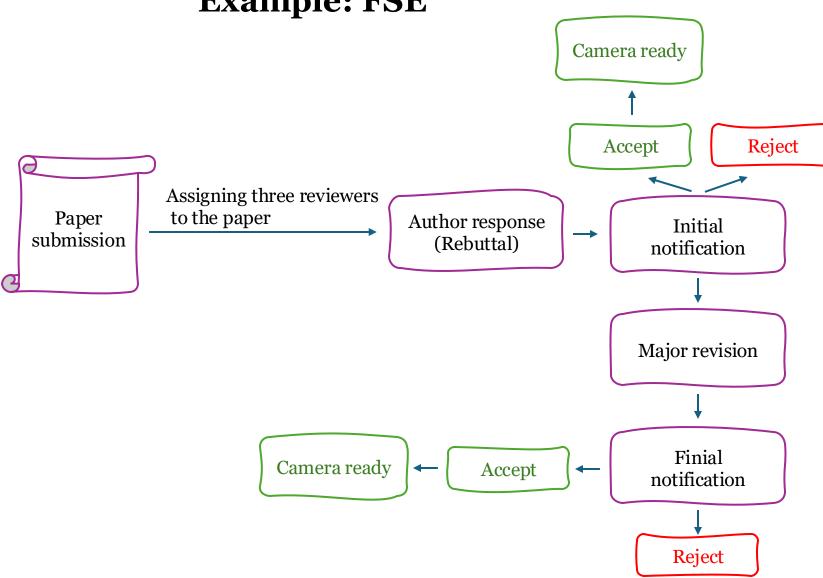
- 1. Impact in the field
- 2. Novelty
- 3. Importance of contribution
- 4. Appropriate research methods

# A comparison between ICSE – FSE – ASE (Research Tracks)

	ICSE	FSE	ASE
Number of pages	10 (text) + 2 (references)	18 (text) + 4 (references)	10 (text) + 2 (references)
Total number of submissions	1049	474	661
Acceptance rate	22.3%	25.5%	20.2%
Has Rebuttal	Yes	Yes	Yes
Has major revision?	Yes	Yes	No
Number of cycles	2	1	1
Time to proceed (directly accepted) Time to proceed (major revisions)	3 months 6 months	4 months 7 months	2 months N/A
Review process	Double-blind	Double-blind	Double-blind



Review process and timings Example: FSE



Important Dates	<b>⊘</b> ⊙ AoE (UTC-12h)
Thu 5 Sep 2024 Paper registration	
Thu 12 Sep 2024 Full paper submission	
Fri 22 - Tue 26 Nov 2024 Author response	
Tue 14 Jan 2025 Initial notification	
Tue 11 Feb 2025 Camera ready (directly accept	ted paper)
Tue 25 Feb 2025 Submission for major-revision	papers
Tue 1 Apr 2025 Final notification for major rev	isions
Thu 24 Apr 2025 Camera ready (major revisions	s)



## Major Papers in Software Engineering

(Last four years)

Paper	Year	Citations	Best paper award
Russo, Daniel. "Navigating the complexity of generative ai adoption in software engineering." ACM Transactions on Software Engineering and Methodology (2024).	2024	39	
Zhu, Jieming, et al. "Loghub: A large collection of system log datasets for ai-driven log analytics." 2023 IEEE 34th International Symposium on Software Reliability Engineering (ISSRE). IEEE, 2023.	2023	38	
Fan, Angela, et al. "Large language models for software engineering: Survey and open problems." 2023 IEEE/ACM International Conference on Software Engineering: Future of Software Engineering (ICSE-FoSE). IEEE, 2023.	2023	158	
Baltes, Sebastian, and Paul Ralph. "Sampling in software engineering research: A critical review and guidelines." Empirical Software Engineering 27.4 (2022): 94.	2022	311	
Yang, Yanming, et al. "A survey on deep learning for software engineering." ACM Computing Surveys (CSUR) 54.10s (2022): 1-73.	2022	219	
Martínez-Fernández, Silverio, et al. "Software engineering for AI-based systems: a survey." ACM Transactions on Software Engineering and Methodology (TOSEM) 31.2 (2022): 1-59.	2022	201	
Zhang, Peixin, et al. "White-box fairness testing through adversarial sampling." Proceedings of the ACM/IEEE 42nd international conference on software engineering. 2020.	2020	120	<b>~</b>
Dong, Zhen, et al. "Time-travel testing of android apps." Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering. 2020.	2020	105	<b>~</b>
Shrestha, Nischal, et al. "Here we go again: Why is it difficult for developers to learn another programming language?." Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering. 2020.	2020	76	<b>~</b>
Karampatsis, Rafael-Michael, et al. "Big code!= big vocabulary: Open-vocabulary models for source code." Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering. 2020.	2020	245	<b>~</b>





Video Recordings in Software Engineering

### 1. Paper presentation in FSE 2022:

An Empirical Study of Log Analysis at Microsoft by Shilin He https://youtu.be/tBsxTHdNREY?si=BtW1wijIvECCIwlU

#### 2. Paper presentation in ICSE 2020:

DeCaf: Diagnosing & Triaging Performance Issues in Large-Scale Cloud Services by Chetan Bansal

https://youtu.be/jRlSicobOok?si= DypI3UWRm5VAj8N

### 3. Three-minute thesis competition: Riya Dutta

https://youtu.be/QfbRSoC5p2s?si=YCm3wWu YARHHFts

### 4. Keynote speaking in ICSE 2023:

Future Software for Life in Trusted Futures by Prof. Sarah Pink <a href="https://youtu.be/VPSnUc5toyI?si=pGheGH2FxnI4qlKQ">https://youtu.be/VPSnUc5toyI?si=pGheGH2FxnI4qlKQ</a>

### 5. Ted Talk:

With AI, Anyone Can Be a Coder Now by Thomas Dohmke (CEO of GitHub) <a href="https://youtu.be/nv9WwHpOKEg?si=tlaiT9O36xCnwaQm">https://youtu.be/nv9WwHpOKEg?si=tlaiT9O36xCnwaQm</a>