

Dong Jae Kim

Assistant Professor

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📍 DePaul University, Chicago, 243 S Wabash Ave, Chicago, IL 60604, United States

Summary

Dong Jae Kim is an Assistant Professor at DePaul University whose research develops LLM-driven techniques for improving software reliability. His work focuses on AI-assisted code understanding, runtime observability, and developer workflows, enabling more accurate and scalable software engineering tools. He has published in leading CORE A conferences and top-tier journals, and serves on program committees for ICSE, FSE, MSR, and AAAI, as well as a reviewer for TOSEM, EMSE, and IEEE Software.

Education

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| Ph.D. in Computer Science , Concordia University, Quebec, Canada | 09/2022-09/2024 |
| <ul style="list-style-type: none"> • Ph.D. thesis: Demystifying myth in test code quality through program analysis • Final Grade: 4.0/4.0 • Ph.D. advisor: Tse-Hsun Chen | |
| Bachelors in Science , McGill University, Quebec, Canada | 09/2012-07/2016 |
| <ul style="list-style-type: none"> • Diploma thesis: Studying UBAN domain ubiquitination in Optineurin for insights into Parkin-mediated mitophagy using Chemical Biology Methods • Diploma advisor: Kalle Gehring | |

Experience

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|--|-------------------|
| Research Collaborator
Mozilla Firefox, Open-Sourced | 07/2025 – Current |
| <ul style="list-style-type: none"> – Leveraged data mining techniques to create a benchmark enabling automated fault localization from Firefox crash data. – Integrated new fault localization telemetry into Mozilla's ecosystem to support downstream software engineering applications. | |
| Assistant Professor
DePaul University, Chicago, School of Computing, Chicago, IL, USA | 09/2024 – Current |
| Applied Machine Learning Engineer
ERA-Environmental Management, Quebec, Canada | 08/2022 – 08/2024 |
| <ul style="list-style-type: none"> – Collaborated with Toyota and Chrysler | |
| Research Consultant , Ericsson, Quebec, Canada | 09/2021 – 12/2022 |
| <ul style="list-style-type: none"> – Collaborated with Ericsson engineers in developing software log anomaly detection solutions | |
| Research Fellow , Concorida University, Quebec, Canada | 08/2020 – 08/2024 |
| Software Developer , Web On Demand, Toronto, Canada | 08/2018 – 1/2019 |

Publications

Dr. Kim's research spans three interconnected areas that together enable AI-augmented software reliability: code understanding, runtime observability, and developer workflows.

CORE A* denotes the highest tier of conferences in the CORE ranking system.¹

Level 2 denotes the highest-quality journal tier in the Norwegian Register for Scientific Journals, Series and Publishers (NSD/Norwegian list).²

Student author denotes a student co-author at DePaul University.

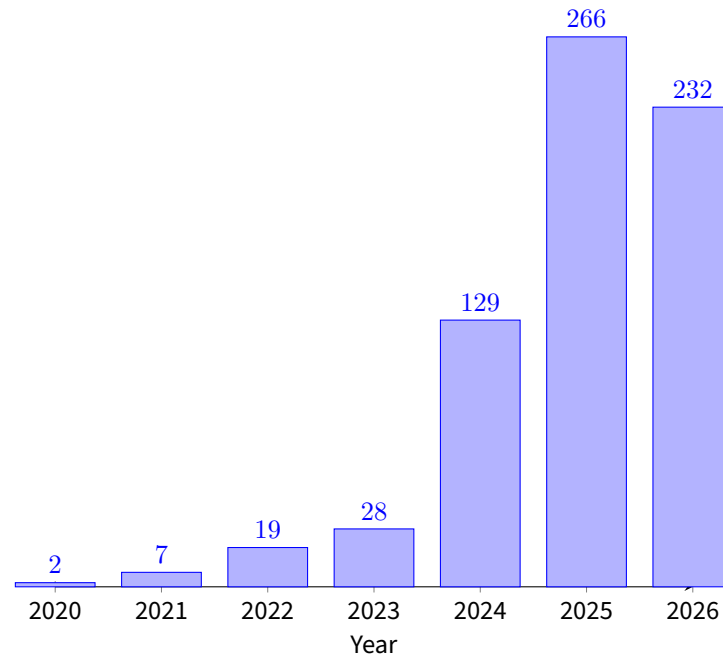


Figure 1: Citation Count Over Years. According to Google Scholar as of September 1, 2026

Conference - Published

- [1] The Impact of Input Order Bias on Large Language Models for Software Fault Localization **CORE A***
Rafi, Md Nakhla; Kim, Dong Jae; Chen, Tse-Hsun; Wang, Shaowei
International Conference on Software Engineering (ICSE), Main Track. 12 Pages. Accepted (2026), IEEE
- [2] When Llm-based code generation meets the software development process **CORE A***
Lin, Feng; Kim, Dong Jae; Chen, Tse-Hsun
International Conference on Software Engineering (ICSE), Main Track. 12 Pages. 2025, IEEE
- [3] Studying and Benchmarking Large Language Models For Log Level Suggestion **CORE A***
Heng, Yi Wen; Ma, Zeyang; Li, Zhenhao; Kim, Dong Jae; Chen, Tse-Hsun
International Conference on Software Testing, Verification and Validation (ICST), Main Track. 12 Pages. 2025, IEEE
- [4] LibreLog: Accurate and Efficient Unsupervised Log Parsing Using Open-Source Large Language Models **CORE A***
Ma, Zeyang; Kim, Dong Jae; Chen, Tse-Hsun
International Conference on Software Engineering (ICSE), Main Track. 12 Pages. 2025, IEEE

¹<https://portal.core.edu.au/conf-ranks/?by=all&search=INTERACT>

²<https://kanalregister.hkdir.no/en>

- [5] Towards better graph neural network-based fault localization through enhanced code representation CORE A*
Rafi, Md Nakhla; Kim, Dong Jae; Chen, An Ran; Chen, Tse-Hsun; Wang, Shaowei
International Conference on the Foundations of Software Engineering (FSE), Main Track. 12 Pages. 2024, ACM
- [6] A First Look at the Inheritance-Induced Redundant Test Execution CORE A*
Kim, Dong Jae; Chen, Tse-Hsun; Yang, Jinqiu
International Conference on Software Engineering (ICSE), Main Track. 12 Pages. 2024, IEEE
- [7] LLMParser: An Exploratory Study on Using Large Language Models for Log Parsing CORE A*
Ma, Zeyang; Chen, An Ran; Kim, Dong Jae; Chen, Tse-Hsun (Peter); Wang, Shaowei
International Conference on Software Engineering (ICSE), Main Track. 12 Pages. 2024, IEEE
- [8] Blessing or Curse? Investigating Test Code Maintenance through Inheritance and Interface CORE A
Kim, Dong Jae; Chen, Tse-Hsun
International Conference on Software Maintenance and Evolution (ICSME) , Main Track. 12 Pages. 2024, IEEE
- [9] Challenges in Adopting Artificial Intelligence Based User Input Verification Framework in Reporting Software Systems CORE A*
Kim, Dong Jae; Locke, Steve; Chen, Tse-Hsun Peter; Toma, Andrei; Sporea, Steve; Weinkam, Laura; Sajedi, Sarah;
International Conference on Software Engineering: Software Engineering in Practice (ICSE), Main Track. 12 Pages. 2023, IEEE
- [10] An empirical study on performance bugs in deep learning frameworks CORE A
Kim, Dong Jae; Locke, Steve; Chen, Tse-Hsun Peter; Toma, Andrei; Sporea, Steve; Weinkam, Laura; Sajedi, Sarah;
International Conference on Software Maintenance and Evolution (ICSME), Software Engineering in Practice. 12 Pages. 2022, IEEE
- [11] Studying test annotation maintenance in the wild CORE A*
Kim, Dong Jae; Yang, Jinqiu; Chen, Tse-Hsun Peter;
International Conference on Software Engineering (ICSE), Main Track. 12 Pages. 2021, IEEE
- [12] How disabled tests manifest in test maintainability challenges? CORE A*
Kim, Dong Jae; Yang, Bo; Yang, Jinqiu; Chen, Tse-Hsun
International Conference on the Foundations of Software Engineering (FSE), Main Track. 12 Pages. 2021, ACM
- [13] An empirical study on the evolution of test smell? CORE A*
Kim, Dong Jae; Yang, Bo; Yang, Jinqiu; Chen, Tse-Hsun
International Conference on Software Engineering (ICSE), Main Track. 12 Pages. 2021, IEEE

Journal - Published

- [1] Identifying performance-sensitive configurations in software systems through code analysis with llm-agents Level 2
Wang, Zehao; Kim, Dong Jae; Chen, Tse-Hsun
Empirical Software Engineering (EMSE), 2026
- [2] Unsupervised, Accurate, and Efficient Log Parsing Using Smaller Open-Source Large Language Models Level 2
Ma, Zeyang; Kim, Dong Jae; Chen, Tse-Hsun
Transactions on Software Engineering and Methodology (TOSEM), 2026
- [3] The secret life of test smells-an empirical study on test smell evolution and maintenance Level 2
Kim, Dong Jae; Chen, Tse-Hsun; Yang, Jinqiu
Empirical Software Engineering (EMSE), 2021, Springer

Journal - Under Review

- [1] A Multi-Agent Approach to Fault Localization via Graph-Based Retrieval and Reflexion Level 2
Rafi, Md Nakhla; Kim, Dong Jae; Chen, Tse-Hsun; Wang, Shaowei
Transactions on Software Engineering and Methodology (TOSEM), Submitted 2025, ACM

- [2] Crash Report Enhancement with Large Language Models: An Empirical Study Level 2
SM Fahim; Rafi, Md Nakhla; Kim, Dong Jae; Chen, Tse-Hsun
Transactions on Software Engineering and Methodology (TOSEM), Submitted 2025, ACM
- [3] RobuNFR: Evaluating the Robustness of Large Language Models on NonFunctional Requirements Aware Code Generation Level 2
Lin, Feng; Kim, Dong Jae; Yang, Jinqiu; Li, Zhenhao; Chen, Tse-Hsun
Empirical Software Engineering (EMSE), 2025, Springer

Conference - Under Review

- [1] NavBench: A Benchmark for Evaluating LLM-Based Code Navigation CORE A*
Khan, Fairuz; Kim, Dong Jae
International Conference on Software Engineering (ICSE-2027), Submitted 2026
- [2] Bug Report Specification Refinement with Trajectory Guidance for Automated Program Repair CORE A*
SM Fahim; Rafi, Md Nakhla; Ma, Zeyang; Kim, Dong Jae; Wang, Shaowei; Chen, Tse-Hsun
International Conference on Software Engineering (ICSE-2027), Submitted 2026
- [3] TrajFL: Dependency-Guided Search for Failure Attribution in LLM Agent Trajectories CORE A*
Rafi, Md Nakhla; Ashan, Md Ahasanuzzaman; Wang, Zhijie; Chen, Tse-Hsun
The Fortieth Annual Conference on Neural Information Processing Systems (Neurips), Submitted 2026

Invited Talks

- [1] **Order Matters! Context-Order Bias in Agentic Software Fault Localization**
 Building the Future of Agentic & AI Systems (CAIS), San Jose, USA 2026
 — link: <https://www.caisconf.org/>
- [2] **A First Look at the Inheritance-Induced Redundant Test Execution**
 Canadian Software Engineering Researcher (CSER), Kingston, CAN 2025
 — link: <https://www.cser.ca/2024s/#newResearchTalks>
- [3] **Anomaly in product usage data in manufacturing process**
 SP Innovation Summit, Ohio, USA 2022
 — link: <https://www.supplierspartnership.org/2022summit/>
- [4] **The Secret Life of Test Smells - An Empirical Study on Test Smell Evolution and Maintenance**
 Invitation to Present Journal, International Conference in Software Engineering (ICSE), Pittsburgh, USA 2022
- [5] **Studying Test Annotation Maintenance in the Wild**
 Canadian Software Engineering Researcher (CSER), Toronto, CAN 2022
 — link: <https://www.cser.ca/2022f/#theprogram>

Tools Contribution

- [1] **AnomalyFinder:** AnomalyFinder is an automated anomaly detection tool for product usage behavior that is developed at ERA Environmental Management Solution. AnomalyFinder uses unsupervised machine learning algorithm to perform anomaly detection analysis. This tool helps hundreds of client detect anomalies on a daily basis.
- [2] **Contributed to RefactoringMiner:** RefactoringMiner is a library/API written in Java that can detect refactorings applied in the history of a Java project. My research in studying test annotation maintenance contributed to detection of annotation refactoring.
 — link: <https://github.com/tsantalais/RefactoringMiner>

Teaching

Courses Developed

Winter 2026	SE441, DePaul University	AI-Augmented Software Delivery and DevOps. — <i>Redesigned curriculum to integrate agentic software engineering and AI for IT operations (AIOps).</i> — <i>Designed and delivered a new curriculum covering Terraform, Vagrant, AWS, Jenkins, security and static analysis, and Git branching strategies.</i>
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Courses Taught

Spring 2026	CSC399, DePaul University	Independent Study. — <i>Supervised undergraduate student on research topic on software refactoring.</i>
Spring 2026	CSC695, DePaul University	Master's Research. — <i>Supervised graduate student on research topics including LLM-based code analysis, DevOps automation.</i>
Spring 2026	SE331, DePaul University	Software Testing. — <i>Integrated testing of LLM-enabled systems.</i>
Winter 2026	SE331, DePaul University	Software Testing. — <i>Integrated CI/CD practices (GitHub Actions, Jenkins) into testing assignments.</i>
Fall 2025	SE331, DePaul University	Software Testing. — <i>Introduced a semester-long project on agentic test generation using Model Context Protocol (MCP).</i>
Fall 2025	CSC699, DePaul University	Research. — <i>Guided student through literature review, system design, and experimental evaluation.</i>
Winter 2025	SE331, DePaul University	Software Testing.
Fall 2024	SE331, DePaul University	Software Testing.
Fall 2024	SE350, DePaul University	Object Oriented Software Development.
Winter 2021	SOEN 6111, Concordia University	Big Data Analytics.
Winter 2020	SOEN 321, Concordia University	Software Process.
Fall 2019	SOEN 321, Concordia University	Software Process.
2020–2021	Ericsson Consulting	Delivered training on unsupervised learning techniques for software engineering applications to industry engineers. — link: https://www.ericsson.com/en/press-releases

Student Supervision

Ph.D. Research Students

09/2025–Present	Fairuz Bilquis Khan	– Project 1: Code Navigation in LLMs via Execution Analysis and Runtime Signals – Project 2: Investigated trajectory memory management and context compression.
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M.Sc. Research Students

02/2026–Present	Anushree Ramrao Bachhav	– Project 1: Analyzing causal alignment between LLM reasoning trajectories for buggy and fixed code – Project 2: LLM for IT Operations and Devops.
03/2026–Present	Marwanur Rashid Shafe	Implementing MCP server for Kalle Linux

B.Sc. Research Students

03/2026–Present	Daniel Carbajal	Context Compression for LLM
02/2026–Present	Soha Shaikh	Framework for Refactoring Buggy Code to Aid Software Bug Localization
11/2025–Present	Sanam Choudhary	A Framework for Adaptive Onboarding in Complex SaaS Interface. – <i>Funded through Motorola Solutions Foundation.</i>
06/2025–Present	Sidiqa Fekrat	Mozilla Firefox Crash Analysis. – <i>Collaboration with Mozilla Firefox developer.</i>
12/2024–Present	Aashish Subramaniam	Using LLM for Automated Penetration Testing. – <i>Continuing research post-graduation.</i> – <i>Working at a Cybersecurity firm in the Bay area.</i>
12/2024–09/2025	Jesus Valdez	Test-Assertion Generation. – <i>Presented at Research Student-Faculty Mixer Event.</i>
06/2025–09/2025	Hemam S. Kassahun	LLM Alignment for Code.
06/2025–07/2025	Amy Yan	Retrieval Augmented Test Generation.

Research Funding

Pending

2026	Amazon Research Proposal (Agentic Engineering)	Detecting and Supporting Silently Stuck Users in Complex Onboarding Workflows; \$80,000 USD
2025	OpenAI Researcher Access Program (RAP)	A Dynamic Coverage Benchmark for Studying LLM Code-Context Reasoning and Generalization; (Submitted); \$1,000 USD

External

2025-2026	Motorola Solutions Foundation	A Framework for Accessible Web Interface; \$5,600 USD
2022-2025	Natural Sciences and Engineering Research Council of Canada (NSERC).	Predictive Mutation Testing; \$63,000 CAD
2022-2025	Graduate Doctoral Incentive Fellowship Concordia University	Software Testing Program Analysis; \$56,000 CAD

Internal

Summer, 2026	Undergraduate Research Grant (URAP)	Constructing a Enterprise-Level Fault Localization Benchmark leveraging Firefox Crash Telemetry for Multi-Agent Systems; \$1,215 USD
Fall, 2024	Undergraduate Research Grant (URAP)	Automated penetration testing using multi-agent system; \$1,215 USD

Declined

Summer, 2025	Undergraduate Research Grant (URAP)	Assertion Generation in Test Code
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Awards

Distinguished Academic Awards

- Best Presentation Award, FSE 2024 — Advisor of Nakhla Md Rafi, Concordia, QC, CA. 2024.
— link: <https://src.acm.org/winners/2025>
- Hugh McQueen Award of Excellence, Concordia University. CAD \$3,000. 2023.

Recognition & Competitive Selection

- Reviewer Recognition, IEEE Transactions on Software Engineering (TSE), 2025
— Recognized for high-quality and impactful peer review contributions to a top-tier journal.
— link: [Proof of Recognition](#)
- Foundation Model for Software Engineering Vision 2030 Event — Selected participant; received free accommodation and registration. 2023.

Travel & Conference Awards

- ACM CAIS (Conference on AI and Agentic System) — USD \$500 (2026).
- DePaul Travel Award — USD \$6000 (2024,2025,2026).
- ACM SIGSOFT CAPS Award — USD \$1,300 (2023), USD \$1,000 (2024).
- Gina Cody Travel Award, Concordia University — CAD \$500 (2023), CAD \$500 (2024).
- Conference and Exposition Award, Concordia University — CAD \$1,000 (2022), CAD \$1,000 (2023), CAD \$1,000 (2024).

- ICSE Travel Award — USD \$500. (2020).

Service

College Services

- Research Grant Review Committee. DePaul, IL USA. 2024–Present.
 - RFUMS Grants Reviewer (Reviewed 3 proposals + 3 hour meeting - 2026)
 - RFUMS Grants Reviewer (Reviewed 5 proposals + 3 hour meeting - 2025)
- Faculty Search Committee, DePaul University (10/2024, 02/2025, 11/2025)
 - Participated in 4 faculty candidate interviews

School Services

- PhD Application Review Sub-Committee — Revising PhD Application Process, CDM. DePaul, IL USA. 2026.
 - Contributed to the review and development of guidelines for prospective PhD applicants.
- PhD Evaluation Review Sub-Committee — Revising PhD Application Process, CDM. DePaul, IL USA. 2026.
 - Reviewed and assessed current PhD students to support program evaluation and academic progress decisions.
- PhD Co-Advising Sub-Committee — Revising PhD Faculty Co-Advising Process, CDM. DePaul, IL USA. 2026.
 - Contributed to the development and review of co-advising guideline document.
- PhD Committee — Interviewed candidates, CDM. DePaul, IL USA. 2024–Present.
 - Defense Committee for Milad Sabouri (advisor: Bamshad Mobasher), 2026
 - Defense Committee for Yuta Nakamura (advisor: Tanu Malik), 03/2025
 - Reviewed 5 Ph.D. application, 02/2026
 - Reviewed 5 Ph.D. application, 02/2025
 - Performed Ph.D. Annual Progress Review (10 Candidates), 10/2025
 - Performed Ph.D. Annual Progress Review (10 Candidates), 06/2026
- Computer Science Program Committee. DePaul, IL USA. 2025–Present.
 - Spring 2026 – Participated in workshop integrating AI in CS-curriculum
 - Spring 2025 – Participated in distribution of CSC program assessment
- Artificial Intelligence Program Committee. DePaul, IL USA. 2024–Present.
- Online-Learning Program Committee. DePaul, IL USA. 2024–Present.
- Faculty Research Environment Committee. DePaul, IL USA. 2024–Present.
 - Collected faculty profiles for new department website. DePaul, IL USA. 03/2025.
 - Reviewed Undergraduate Research Award Program
 - * Reviewed 7 applications in Winter 2024
 - Reviewed Graduate Research Award Program
 - * Reviewed 27 applications in Fall 2025
- Associate Program Chair for Software Engineering. DePaul, IL USA. 2025–Present.
 - Advise students on career and courses (advised 15+ students in Winter 2026)

Student Engagement and Outreach

- Hack DePaul Club — Advisory Board Member. DePaul, IL USA. 2026–Present.
- NASA DePaul Hackathon — Consulted and attended with DePaul CS students. DePaul, IL USA, 10/02–10/03/2025.
- DePaul New Undergraduate Preview Day — Outreach. DePaul, IL USA. 02/05/2025, 04/28/2025 and 04/24/2026.
- Faculty Panelist — DePaulCSS Event. DePaul, IL USA. 03/2025.
- RedHat Hackathon on MLOps — Organizer. DePaul, IL USA. 03/2025.
— link: [Proof of Event](#)
- DePaul & Northern Trust Hackathon — Faculty Mentor. DePaul, IL USA. 10/2024.
- New Graduate Welcome Events — Outreach. DePaul, IL USA. 09/2024.
- AIEspresso Journal Club — Co-Director with Tianxiang Gao and Kenny Davilla. DePaul, IL USA. 2024–Present.
— link: <https://gaotx-cs.github.io/aispresso/>.

Faculty Engagement

- Organizer – SoC End of the Year Party at Ace Bounce, DePaul, IL USA. 12/2025.
- Organizer – SoC End of the Year Party at Ace Bounce, DePaul, IL USA. 06/2026.

Professional Activities

Conference Committee Member

- Reviewer – International Symposium on the Foundations of Software Engineering (FSE). 2027.
- Reviewer – International Conference on Artificial Intelligence (AAAI). 2027
- Reviewer – International Conference on Collaborative Advances in Software and Computing (CasCon). 2026.
- Reviewer – ACM AI Leadership Summit. 2026.
- Reviewer – The Fortieth Annual Conference on Neural Information Processing Systems (NeurIPS). 2026.
- Reviewer – IEEE/ACM International Conference on Automated Software Engineering (ASE). 2026.
- Reviewer – IEEE Computer Society Signature Conference on Computers, Software, and Applications (COMPSAC). 2026.
- Reviewer – International Conference on AI-powered Software (AIWare). 2026.
- Reviewer – International Conference on Performance Engineering (ICPE). 2026.
- Reviewer – The 24th IEEE/ACIS International Conference on Software Engineering Research, Management and Applications (SERA). 2026.
- Lead Reviewer – International Symposium on Software Testing and Analysis (ISSTA). 2026.
- Reviewer – International Symposium on Software Testing and Analysis (ISSTA-Artifact). 2026.
- Lead Reviewer – International Conference on Software Maintenance and Evolution (ICSME). 2026.
- Reviewer – International Conference on Software Maintenance and Evolution (ICSME-NIER). 2026.
- Reviewer – International Conference on Software Analysis, Evolution and Reengineering (SANER). 2026.
- Reviewer – International Conference on AI Foundation Models and Software Engineering (FORGE). 2026.
- Reviewer – International Conference on Mining Software Repositories (MSR). 2026.
- Reviewer – International Symposium on the Foundations of Software Engineering (FSE). 2025.

- Reviewer – International Conference on Mining Software Repositories (MSR). 2025.
- Reviewer – International Conference on AI-powered Software (AIWare). 2025.
- Reviewer – International Conference on Artificial Intelligence (AAAI). 2025
- Reviewer – International Conference on Collaborative Advances in Software and Computing (CasCon). 2025.
- Reviewer – International Workshop on Load Testing and Benchmarking of Software Systems (LBT). 2025.
- Reviewer – International Conference on Model Driven Engineering Languages and Systems (MODELS). 2025.
- Reviewer – International Conference on Mining Software Repositories (MSR). 2023.

Journal Committee Member

- Reviewer – ACM Transactions on Software Engineering and Methodology (TOSEM).
(2 year appointment; Jan 2026 – Dec 2027).
— link: <https://dl.acm.org/journal/tosem/editorial-board>.

Conference Organizing Committees

- Information Service – International Conference on Mining Software Repositories (MSR 2023).

Journal Reviewer

- ACM Transactions on Software Engineering and Methodology (TOSEM)
 - Summer 2026 (7 paper)
 - Spring 2026 (15 paper)
 - Winter 2026 (10 paper)
 - Fall 2025 (7 paper)
 - Summer 2025 (1 paper)
 - Winter 2025 (1 paper)
 - Fall 2024 (3 papers)
- IEEE Transactions on Big Data (TBDSI)
 - Winter 2026 (1 paper)
- Transactions on Software Engineering (TSE)
 - Summer 2027 (3 paper)
 - Winter 2026 (1 paper)
 - Fall 2025 (1 paper)
- IEEE Software (SWE)
 - Winter 2026 (1 paper)
 - Spring 2025 (1 paper)
- Journal of Software Maintenance and Evolution (JSME)
 - Fall 2024 (2 papers)
- Journal of Software System (JSS)
 - Summer 2025 (1 paper)
- Empirical Software Engineering (EMSE)
 - Spring 2026 (4 papers)
 - Winter 2026 (3 papers)
 - Fall 2025 (6 papers)
 - Summer 2025 (3 papers)
 - Spring 2025 (2 papers)

- IEEE Transactions on Reliability (TR)
 - Spring 2025 (1 paper)
- Applied Artificial Intelligence (AAI)
 - Fall 2025 (1 paper)
- Computing The Journal of Networks, Software Tools and Applications
 - Summer 2026 (1 paper)