

Sebastiano Panichella - Publication list

TOP SELECTED :
PUBLICATIONS
THAT INFLUENCED
(OR ARE
INFLUENCING) THE
RESEARCH FIELD

1. S. Panichella, A. Di Sorbo, E. Guzman, A. Visaggio, G. Canfora, H. Gall: How Can I Improve My App? Classifying User Reviews for Software Maintenance and Evolution. International Conference on Software Maintenance and Evolution. 2015
2. A. Di Sorbo, F. Zampetti, A. Visaggio, M. Di Penta, S. Panichella: Automated Identification and Qualitative Characterization of Safety Concerns Reported in UAV Software Platforms. Transactions on Software Engineering and Methodology. 2022
3. F. Zampetti, R. Kapur, M. Di Penta, S. Panichella: An Empirical Characterization of Software Bugs in Open-Source Cyber-Physical Systems. Journal of Systems & Software. 2022
4. C. Birchler, S. Khatiri, B. Bosshard, A. Gambi, S. Panichella: Machine Learning-based Test Selection for Simulation-based Testing of Self-driving Cars Software. Empirical Software Engineering. 2023
5. S. Khatiri, S. Panichella, P. Tonella: Simulation-based Test Case Generation for Unmanned Aerial Vehicles in the Neighborhood of Real Flights. International Conference on Software Testing, Verification and Validation. 2023
6. C. Birchler, T. Kombarabettu Mohammed, P. Rani, T. Nechita, T. Kehrer, S. Panichella: How does Simulation-based Testing for Self-driving Cars match Human Perception? ACM International Conference on the Foundations of Software Engineering. 2024
7. C. Birchler, S. Khatiri, P. Rani, T. Kehrer, S. Panichella: A Roadmap for Simulation-Based Testing of Autonomous Cyber-Physical Systems: Challenges and Future Direction. Special issue "A 2030 Roadmap for Software Engineering" in Transactions on Software Engineering and Methodology. 2025
8. S. Khatiri, F. Mohammadi Amin, S. Panichella, P. Tonella: When Uncertainty Leads to Unsafety: Empirical Insights into the Role of Uncertainty in Unmanned Aerial Vehicle Safety. Empirical Software Engineering Journal (EMSE). 2025
9. S. Khatiri, F. Barrientos, M. Wulf, P. Tonella, S. Panichella: Bridging Research and Practice in Simulation-based Testing of Industrial Robot Navigation Systems. International Conference on Automated Software Engineering. 2025
10. **Selected Contributions to Books:**
 - S. Panichella (Editor): *Roadmap for DevOps in Cyber-physical Systems: Challenges and Future Directions*. 2025
 - S. Panichella contributions to the book: *Large Language Models in Cybersecurity and Cyberdefense: Novel Threats and Mitigations Perspectives*. Chapters: "Vulnerabilities Introduced by LLMs through Code Suggestions", "Enhancing Security Awareness and Education for Large Language Models". 2024

In papers marked with (*) the authors are listed in alphabetic order.
Journal Publications after the P.h.D.¹

- [1] Sajad Khatiri, Fatemeh Mohammadi Amin, Sebastiano Panichella, Paolo Tonella: **When Uncertainty Leads to Unsafety: Empirical Insights into the Role of Uncertainty in Unmanned Aerial Vehicle Safety**. Empirical Software Engineering journal (EMSE 2025).
<https://link.springer.com/article/10.1007/s10664-025-10697-z>
- [2] Christian Birchler, Sajad Khatiri, Pooja Rani, Timo Kehrer, Sebastiano Panichella: **A Roadmap for Simulation-Based Testing of Autonomous Cyber-Physical Systems: Challenges and Future Direction**. Special issue "A 2030 Roadmap for Software Engineering" in ACM Transactions on Software Engineering and Methodology (TOSEM 2025).
<https://doi.org/10.1145/3711906>
- [3] Sajad Khatiri, Andrea Di Sorbo, Fiorella Zampetti, Corrado A. Visaggio, Massimiliano Di Penta, Sebastiano Panichella: **Identifying Safety-Critical Concerns in Unmanned Aerial Vehicle Software Platforms with SALIENT**. SoftwareX Journal, 2024.
<https://www.sciencedirect.com/science/article/pii/S2352711024001195>
- [4] Pooja Rani, Arianna Blasi, Nataliia Stulova, Sebastiano Panichella, Alessandra Gorla, Oscar Nierstrasz: **A Decade of Code Comment Quality Assessment: A Systematic Literature Review**. Journal of Systems & Software (JSS 2022).
<https://www.sciencedirect.com/science/article/pii/S0164121222001911>
- [5] Xavier Devroey, Alessio Gambi, Juan Pablo Galeotti, Rene Just, Fitsum Kifetew, Annibale Panichella, and Sebastiano Panichella: **JUGE: An Infrastructure for Benchmarking Java Unit Test Generators**. Software Testing, Verification and Reliability, 2023.
<https://onlinelibrary.wiley.com/doi/abs/10.1002/stvr.1838>
- [6] Christian Birchler, Sajad Khatiri, Bill Bosshard, Alessio Gambi, Sebastiano Panichella: Machine Learning-based Test Selection for Simulation-based Testing of Self-driving Cars Software. Empirical Software Engineering, 2023.
<https://doi.org/10.1007/s10664-023-10286-y>
- [7] Christian Birchler, Nicolas Ganz, Sajad Khatiri, Alessio Gambi, Sebastiano Panichella: Cost-effective Simulation-based Test Selection in Self-driving Cars Software. Science of Computer Programming, 2022.
<https://www.sciencedirect.com/science/article/pii/S0167642323000084?via%3Dihub>
- [8] Andrea Di Sorbo, Fiorella Zampetti, Corrado A. Visaggio, Massimiliano Di Penta, Sebastiano Panichella: Automated Identification and Qualitative Characterization of Safety Concerns Reported in UAV Software Platforms. Transactions on Software Engineering and Methodology (TOSEM 2022).
<https://dl.acm.org/doi/10.1145/3564821>
- [9] Zampetti, Fiorella; Tamburri, Damian ; Sebastiano Panichella; Panichella, Annibale; Canfora, Gerardo; Di Penta, Massimiliano: Continuous Integration and Delivery practices for Cyber-Physical systems: An interview-based study. Transactions on Software Engineering and Methodology (TOSEM 2022).
<https://dl.acm.org/doi/10.1145/3571854>

¹Updated list available at <https://spanichella.github.io/publications.html>

- [10] Annibale Panichella, Sebastiano Panichella, Gordon Fraser, Anand Sawant, and Vincent Hellendoorn: Test Smells 20 Years Later: Detectability, Validity, and Reliability. Empirical Software Engineering (EMSE 2022) Journal.
<https://link.springer.com/article/10.1007/s10664-022-10207-5>
- [11] Fiorella Zampetti, Ritu Kapur, Massimiliano Di Penta, Sebastiano Panichella, An Empirical Characterization of Software Bugs in Open-Source Cyber-Physical Systems. Journal of Systems and Software (JSS 2022).
<https://www.sciencedirect.com/science/article/abs/pii/S0164121222001315>
- [12] Christian Birchler, Sajad Khatiri, Pouria Derakhshanfar, Sebastiano Panichella, and Annibale Panichella: Single and Multi-objective Test Cases Prioritization for Self-driving Cars in Virtual Environments. ACM Transactions on Software Engineering and Methodology (TOSEM 2022) doi:<https://dl.acm.org/doi/10.1145/3533818>
- [13] Fiorella Zampetti, Saghan Mudbhari, Venera Arnaoudova, Massimiliano Di Penta, Sebastiano Panichella, Giuliano Antoniol: Using Code Reviews to Automatically Configure Static Analysis Tools. Empirical Software Engineering, 2022.
doi:<https://link.springer.com/article/10.1007/s10664-021-10076-4>
- [14] Pooja Ruhel, Sebastiano Panichella, Manuel Leuenberger, Andrea Di Sorbo, and Oscar Nierstrasz: How to Identify Class Comment Types? A Multi-language Approach for Class Comment Classification. Journal of Systems and Software, 2021.
doi:<https://doi.org/10.1016/j.jss.2021.111047>
- [15] Sebastiano Panichella, Gerardo Canfora, and Andrea Di Sorbo: "Won't We Fix this Issue?" Qualitative Characterization and Automated Identification of Wontfix Issues on Github. Information and Software Technology Journal, 2021
doi:<https://doi.org/10.1016/j.infsof.2021.106665>
- [16] Pooja Rani, Sebastiano Panichella, Manuel Leuenberger, Mohammad Ghafari, Oscar Nierstrasz: What do class comments tell us? An investigation of comment evolution and practices in Pharo Smalltalk. Empirical Software Engineering, 2021.
doi:<https://doi.org/10.1007/s10664-021-09981-5>
- [17] Andrea Di Sorbo and Sebastiano Panichella: Exposed! A Case Study on the Vulnerability-Proneness of Google Play Apps. Empirical Software Engineering, 2021.
doi:<https://link.springer.com/article/10.1007/s10664-021-09978-0>
- [18] Rafael Kallis, Andrea Di Sorbo, Gerardo Canfora, Sebastiano Panichella: Predicting Issue Types on GitHub. Journal of Science of Computer Programming, 2021.
doi:<https://doi.org/10.1016/j.scico.2020.102598>
- [19] Valentina Lenarduzzi, Jeremy Daly, Antonio Martini, Sebastiano Panichella, Damian Andrew Tamburri: Towards a Technical Debt Conceptualization for Serverless Computing. IEEE Software, 2021.
doi:<https://ieeexplore.ieee.org/document/9222009>
- [20] Andrea Di Sorbo, Giovanni Grano, Aaron Visaggio and Sebastiano Panichella: Investigating the Criticality of User Reported Issues through their Relations with App Rating. Journal of Software: Evolution and Process (JSEP) Journal, 2020.
doi:<https://onlinelibrary.wiley.com/doi/abs/10.1002/smr.2316Z>
- [21] Sebastiano Panichella and Nik Zaugg: An Empirical Investigation of Relevant Changes and Automation Needs in Modern Code Review. Empirical Software

- Engineering (EMSE) Journal. 2020
doi:<https://link.springer.com/article/10.1007/s10664-019-09785-8>
- [22] Yu Zhou, Yanqi Su, Taolue Chen, Zhiqiu Huang, Harald Gall, Sebastiano Panichella: User Review-Based Change File Localization for Mobile Applications. *Transactions on Software Engineering (TSE 2020) Journal*.
doi:<https://doi.org/10.1109/TSE.2020.2967383>
 - [23] Fiorella Zampetti, Carmine Vassallo, Sebastiano Panichella, Gerardo Canfora, Harald Gall, Massimiliano Di Penta: **An Empirical Characterization of Bad Practices in Continuous Integration**. *Empirical Software Engineering (EMSE 2020)*.
doi:<https://doi.org/10.1109/TSE.2019.2946773>
 - [24] Giovanni Grano, Christoph Laaber, Annibale Panichella, and Sebastiano Panichella: **Testing with Fewer Resources: An Adaptive Approach to Performance-Aware Test Case Generation**. *Transactions on Software Engineering (TSE 2020)*.
doi:<https://doi.org/10.1109/TSE.2019.2946773>
 - [25] A. Sorbo, S. Panichella, Aaron Visaggio, Di Massimiliano Di Penta, Canfora Gerardo, and Harald Gall. **Exploiting Natural Language Structures in Software Informal Documentation**. *Transactions on Software Engineering (TSE) 2019*.
doi:<https://doi.org/10.1109/TSE.2019.2930519>
 - [26] C. Vassallo, S. Panichella, F. Palomba, S. Proksch, Harald Gall, Andy Zaidman. **How Developers Engage with Static Analysis Tools in Different Contexts**. *Empirical Software Engineering (EMSE) 2019*.
doi:<https://doi.org/10.1007/s10664-019-09750-5>
 - [27] G.Grano, T. Titov, S. Panichella, H. Gall: **Branch Coverage Prediction in Automated Testing**. *Journal of Software: Evolution and Process (JSEP) 2019*.
doi:<https://doi.org/10.1016/j.infsof.2019.05.005>
 - [28] C. Alexandru, S. Panichella, S. Proksch, Harald Gall. ***Redundancy-free Analysis of Multi-revision Software Artifacts**. *Empirical Software Engineering (EMSE) 2019*.
doi:<http://doi.acm.org/10.1145/3276954.3276960>
 - [29] Y. Zhou and C. Wang and Y. Xin and T. Chen and S. Panichella and H. Gall . **Automatic Detection and Repair Recommendation of Directive Defects in Java API Documentation**. *Transaction on Software Engineering 2018* - <https://ieeexplore.ieee.org/document/8478004>.
 - [30] G. Canfora, A. De Lucia, M. Di Penta, R. Oliveto, A. Panichella, S. Panichella. ***Defect Prediction as a Multi-Objective Optimization Problem**. *Software Testing, Verification and Reliability (STVR) 2015*.
doi:[10.1002/stvr.1570](https://doi.org/10.1002/stvr.1570)

Journal Publications during the PhD study²:

- [31] G. Bavota, G. Canfora, M. Di Penta, R. Oliveto, S. Panichella. ***How the Apache Community Upgrades Dependencies**. *Empirical Software Engineering (EMSE)* 2014.
doi:10.1007/s10664-014-9325-9
- [32] A. De Lucia, M. Di Penta, R. Oliveto, A. Panichella, S. Panichella. ***Applying a Smoothing Filter to Improve IR-based Traceability Recovery Processes: An Empirical Investigation**. *Information and Software Technology (INFOSOF)* 2012.
doi:10.1016/j.infsof.2012.08.002
- [33] A. De Lucia, M. Di Penta, R. Oliveto, A. Panichella, S. Panichella. ***Labeling Source Code with Information Retrieval Methods: An Empirical Study**. *Empirical Software Engineering (EMSE)* 2013. doi:doi:10.1007/s10664-013-9285-5

Journal Publications during the master study³:

- [34] G. Capobianco, A. De Lucia, R. Oliveto, A. Panichella, S. Panichella. ***Improving IR-based traceability recovery via noun-based indexing of software artifacts**. *Journal of Software: Evolution and Process (JSE)* 2012.
doi:10.1002/smr.1564

CONFERENCE
PUBLICATIONS

In papers marked with (*), the authors are listed in alphabetical order.

Conference/Workshop Publications after the Ph.D.⁴:

- [35] S. Khatiri, F.Barrientos, M. Wulf, P. Tonella, Sebastiano Panichella: **Bridging Research and Practice in Simulation-based Testing of Industrial Robot Navigation Systems**. International Conference on Automated Software Engineering (ASE 2025)
- [36] Pablo Valenzuela-Toledo, Chuyue Wu, Sandro Hernández, Alexander Boll, Roman Machacek, Sebastiano Panichella, Timo Kehler: **Explaining GitHub Actions Failures with Large Language Models: Challenges, Insights, and Limitations**. International Conference on Program Comprehension (ICPC 2025).
<https://doi.org/10.1109/ICPC66645.2025.00037>
- [37] Sajad Khatiri, Tahereh Zohdinasab, Prasun Saurabh, Dmytro Humeniuk, Sebastiano Panichella: **ICST Tool Competition 2025 – UAV Testing Track**. International Conference on Software Testing, Verification and Validation (ICST) 2025.
<https://ieeexplore.ieee.org/document/10988922/>
- [38] Christian Birchler, Stefan Klikovits, Mattia Fazzini, Sebastiano Panichella: **ICST Tool Competition 2025-Self-Driving Car Testing Track**. International Conference on Software Testing, Verification and Validation (ICST) 2025.
<https://ieeexplore.ieee.org/document/10989045>
- [39] Sajad Khatiri, Tahereh Zohdinasab, Prasun Saurabh, Dmytro Humeniuk, Sebastiano Panichella: **SBFT Tool Competition 2025 - UAV Testing Track**. Intl. Workshop on Search-Based and Fuzz Testing (SBFT) 2025
- [40] Christian Birchler, Stefan Klikovits, Mattia Fazzini, Sebastiano Panichella: **SBFT Tool Competition 2025 - CPS-SDC Regression Testing Track** Intl. Workshop on Search-Based and Fuzz Testing (SBFT) 2025

- [41] Christian Birchler, Tanzil Kombarabettu Mohammed, Pooja Rani, Teodora Nechita, Timo Kehrner, Sebastiano Panichella: **How does Simulation-based Testing for Self-driving Cars match Human Perception?**. ACM International Conference on the Foundations of Software Engineering (FSE 2024).
<https://doi.org/10.1145/3643768>
- [42] Nicolas Erni, Al-Ameen, Mohammed, Christian Birchler, Pouria Derakhshanfar, Stephan Lukasczyk, Sebastiano Panichella: **SBFT Tool Competition 2024 – Python Test Case Generation Track**. 17th International Workshop on Search-Based and Fuzz Testing (SBFT) 2024.
<https://doi.org/10.1145/3643659.3643930>
- [43] Sajad Khatiri, Prasun Saurabh, Timothy Zimmermann, Charith Munasinghe, Christian Birchler, Sebastiano Panichella: **SBFT Tool Competition 2024 - CPS-UAV Test Case Generation Track**. 17th International Workshop on Search-Based and Fuzz Testing (SBFT) 2024.
<https://doi.org/10.1145/3643659.3643931>
- [44] Timo Blattner, Christian Birchler, Timo Kehrner, Sebastiano Panichella: **Diversity-guided Search Exploration for Self-driving Cars Test Generation through Frenet Space Encoding**. Intl. Workshop on Search-Based and Fuzz Testing (SBFT). 2024.
<https://dl.acm.org/doi/pdf/10.1145/3643659.3643926>
- [45] Christian Birchler, Cyrill Rohrbach, Timo Kehrner, Sebastiano Panichella: **SensDat: Simulation-based Sensor Dataset of Self-driving Cars**. Mining Software Repositories (MSR). 2024.
<https://doi.org/10.1145/3643991.3644891>
- [46] Sajad Khatiri, Sebastiano Panichella, Paolo Tonella: **Simulation-based Testing of Unmanned Aerial Vehicles with Aerialist**. International Conference on Software Engineering. 2024.
<https://dl.acm.org/doi/10.1145/3639478.3640031>
- [47] Christian Birchler, Cyrill Rohrbach, Hyeonkyun Kim, Alessio Gambi, Tianhai Liu, Jens Horneber, Timo Kehrner, Sebastiano Panichella: **TEASER: Simulation-based CAN Bus Regression Testing for Self-driving Cars Software..** International Conference on Automated Software Engineering.
- <https://doi.org/10.1109/ASE56229.2023.00154>
- [48] Sajad Khatiri, Sebastiano Panichella, Paolo Tonella: **Simulation-based Test Case Generation for Unmanned Aerial Vehicles in the Neighborhood of Real Flights**. International Conference on Software Testing, Verification and Validation.
- <https://doi.org/10.1109/ICST57152.2023.00034>
- [49] Rafael Kallis; Oscar Chaparro; Andrea Di Sorbo; Sebastiano Panichella: **NLBSE'22 Tool Competition**. *IEEE/ACM 1st International Workshop on Natural Language-Based Software Engineering*. (NLBSE 2022)
- <https://dl.acm.org/doi/10.1145/3528588.3528664>.
- [50] Christian Birchler, Nicolas Ganz, Sajad Khatiri, Alessio Gambi and Sebastiano Panichella: **Cost-effective Simulation-based Test Selection in Self-driving Cars Software with SDC-Scissor**. *International Conference on Software Analysis, Evolution, and Reengineering 2022 (SANER)*
- <https://ieeexplore.ieee.org/document/9825849>.

- [51] Pooja Ruhel, Mathias Birrer, [Sebastiano Panichella](#), Mohammad Ghafari, and Oscar Nierstrasz: **What do Developers Discuss about Code Comments?** *International Working Conference on Source Code Analysis and Manipulation 2021 (SCAM)* - <https://doi.org/10.1109/SCAM52516.2021.00027>.
- [52] Andrea Di Sorbo, Aaron Visaggio, Massimiliano Di Penta, Gerardo Canfora, [Sebastiano Panichella](#): **An NLP-based Tool for Software Artifacts Analysis** *International Conference on Software Maintenance and Evolution* - <https://doi.org/10.1109/ICSME52107.2021.00058>.
- [53] [Sebastiano Panichella](#), Alessio Gambi, Fiorella Zampetti, Vincenzo Riccio: **SBST Tool Competition 2021** *International Conference on Software Engineering Workshops (ICSE 2021)* - doi:10.1109/SBST52555.2021.00011.
- [54] [Sebastiano Panichella](#), Mohammad Imranur Rahman, and Davide Taibi: **Structural Coupling for Microservices** *International Conference on Cloud Computing and Services Science (CLOSER 2021)* <https://www.scitepress.org/Link.aspxdoi:10.5220/0010481902800287>.
- [55] Usman Ashraf, Christoph Mayr-Dorn, Atif Mashkoor, Alexander Egyed, and [Sebastiano Panichella](#): **Do Communities in Developer Interaction Networks align with Sub-system Developer Teams? An Empirical Study of Open Source Systems** *International Conference on Software and System Processes (ICSSP 2021)* - 10.1109/ICSSP-ICGSE52873.2021.00016.
- [56] Mathias Birrer, Pooja Ruhel, [Sebastiano Panichella](#), and Oscar Nierstrasz: **Makar: A Framework for Multi-source Studies based on Unstructured Data** *International Conference on Software Analysis, Evolution and Reengineering (SANER 2021)* <https://ieeexplore.ieee.org/document/9426063>.
- [57] Annibale Panichella, [Sebastiano Panichella](#), Gordon Fraser, Anand Ashok Sawant and Vincent Hellendoorn: **Revisiting Test Smells in Automatically Generated Tests: Limitations, Pitfalls, and Opportunities** *International Conference on Software Maintenance and Evolution (ICSME 2020)* - <https://ieeexplore.ieee.org/document/9240691>.
- [58] Devjeet Roy, Ziyi Zhang, Maggie Ma, Venera Arnaoudova, Annibale Panichella, [Sebastiano Panichella](#), Danielle Gonzalez, Mehdi Mirakhorli: **DeepTC-Enhancer: Improving the Readability of Automatically Generated Tests.** *IEEE/ACM International Conference on Automated Software Engineering* doi:<https://doi.org/10.1145/3324884.3416622>.
- [59] Xavier Devroey, [Sebastiano Panichella](#) and Alessio Gambi: **Java Unit Testing Tool Competition-Eighth Round..** *IEEE/ACM 42nd International Conference on Software Engineering Workshops (ICSE 2020)* - <https://doi.org/10.1145/3387940.3392265>.
- [60] [Sebastiano Panichella](#) and Marcela Ruiz: **Requirements-Collector: Automating Requirements Specification from Elicitation Sessions and User Feedback.** *IEEE International Requirements Engineering Conference (RE'20)*. <https://doi.org/10.1109/RE48521.2020.00057>.
- [61] Usman Ashraf, Christoph Mayr-Dorn, Alexander Egyed, and [Sebastiano Panichella](#): **A Mixed Graph-Relational Dataset of Socio-technical interactions in Open Source Systems.** *Mining Software Repositories (MSR 2020)*. - <https://doi.org/10.1145/3379597.3387492>.

- [62] Muhammad Ilyas Azeem, Sebastiano Panichella, Andrea Di Sorbo, Alexander Serebrenik, and Qing Wang: **Action-based Recommendation in Pull-request Development**. *International Conference on Software and System Processes (ICSSP2020)* - <https://dl.acm.org/doi/10.1145/3379177.3388904>.
- [63] Rafael Kallis, Andrea Di Sorbo, Gerardo Canfora and Sebastiano Panichella: ICSE 2019 - To Appear. **Ticket Tagger: Machine Learning Driven Issue Classification**. *35th IEEE International Conference on Software Maintenance and Evolution (ICSME 2019)* - <https://ieeexplore.ieee.org/iel7/8910135/8918933/08918993.pdf>.
- [64] Y. Zhou, C. Wang, Y. Xin, T. Chen, Sebastiano Panichella, and H. Gall.: ICSE 2019 - To Appear. **DRONE: A Tool to Detect and Repair Directive Defects in Java APIs Documentation**. *International Conference on Software Engineering, ICSE 2019* - <https://ieeexplore.ieee.org/document/8802660>.
- [65] Diego Martin, Sebastiano Panichella. **The Cloudification Perspectives of Search-based Software Testing**. *The 12th Int. Workshop on Search-Based Software Testing, 2019* - <https://ieeexplore.ieee.org/document/8812184>.
- [66] Carol V. Alexandru; Jose J. Merchant; Sebastiano Panichella; Sebastian Proksch; Harald C. Gall; Gregorio Robles. **On the Usage of Pythonic Idioms..** *Onward! 2018* - <https://dl.acm.org/citation.cfm?id=3276960>.
- [67] S. Panichella. **Summarization Techniques for Code, Change, Testing and User Feedback..** *Proceedings of the IEEE 25th International Conference on Software Analysis, Evolution and Reengineering (SANER 2018)* - <https://doi.org/10.1109/VST.2018.8327148>.
- [68] G. Grano, T. Titov, S. Panichella, H. Gall. **How High Will It Be? Using Machine Learning Models to Predict Branch Coverage in Automated Testing**. *MaLTESQuE (collocated with SANER 2018)* - <https://doi.org/10.1109/MALTESQUE.2018.8368454>.
- [69] L. Pelloni, G. Grano, A. Ciurumelea, S. Panichella, F. Palomba, H. Gall. **BE-CLOMA: Augmenting Stack Traces with User Review Information..** *Proceedings of the IEEE 25th International Conference on Software Analysis, Evolution and Reengineering (SANER 2018)* - <https://doi.org/10.1109/SANER.2018.8330252>.
- [70] A. Ciurumelea, S. Panichella, H. Gall. **Automated User Reviews Analyser..** *Proceedings of the 40th International Conference on Software Engineering (ICSE 2018)* - <http://doi.acm.org/10.1145/3183440.3194988>.
- [71] G. Grano, A. Ciurumelea, S. Panichella, F. Palomba, H. Gall. **Exploring the Integration of User Feedback in Automated Testing of Android Applications..** *Proceedings of the IEEE 25th International Conference on Software Analysis, Evolution and Reengineering (SANER 2018)* - <https://doi.org/10.1109/SANER.2018.8330198>.
- [72] C. Vassallo, S. Panichella, F. Palomba, S. Proksch, A. Zaidman and H. Gall. **Context is King: The Developer Perspective on the Usage of Static Analysis Tools..** *Proceedings of the IEEE 25th International Conference on Software*

Analysis, Evolution and Reengineering (SANER 2018) -
<https://doi.org/10.1109/SANER.2018.8330195>.

- [73] G. Grano, A. Di Sorbo, F. Mercaldo, C. Visaggio, G. Canfora, S. Panichella. **Android Apps and User Feedback: a Dataset for Software Evolution and Quality Improvement..** *Proceedings of the International Workshop on App Market Analytics (WAMA 2017)*.
<http://doi.acm.org/10.1145/3121264.3121266>
- [74] C. Vassallo, G. Schermann, F. Zampetti, D. Romano, P. Leitner, A. Zaidman, M. di Penta, S. Panichella. **A Tale of CI Build Failures: an Open Source and a Financial Organization Perspective..** *Proceedings of the 33rd International Conference on Software Maintenance and Evolution (ICSME 2017)*. Core RANK: A.
<https://doi.org/10.1109/ICSME.2017.67>
- [75] C. V. Alexandru, S. Panichella, Harald Gall. **Replicating Parser Behavior using Neural Machine Translation.** *Proceedings of the 25th International Conference on Program Comprehension (ICPC 2017)*. Core RANK: C.
<https://doi.org/10.1109/ICPC.2017.11>
- [76] A. Di Sorbo, S. Panichella, C. V. Alexandru, C. A. Visaggio, G. Canfora. **SURF: Summarizer of User Reviews Feedback.** *Demonstrations Track of the 39th International Conference on Software Engineering (ICSE 2017)*. Core RANK: A*.
<https://doi.org/10.1109/ICSE-C.2017.5>
- [77] F. Palomba, P. Salza, A. Ciurumelea, S. Panichella, H. Gall, F. Ferrucci, A. De Lucia. **Recommending and Localizing Change Requests for Mobile Apps based on User Reviews.** In: *39th International Conference on Software Engineering (ICSE 2017)*. Core RANK: A*.
<https://doi.org/10.1109/ICSE.2017.18>
- [78] A. Ciurumelea, A. Schaufelbuhl, S. Panichella, Harald Gall. **Analyzing Reviews and Code of Mobile Apps for better Release Planning.** In: *Proceedings of the 24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER) 2017. Klagenfurt, Austria*.
<https://doi.org/10.1109/SANER.2017.7884612>
- [79] Y. Zhou, R. Gu, T. Chen, Z. Huang, S. Panichella, H. Gall. **Analyzing APIs Documentation and Code to Detect Directive Defects.** In: *39th International Conference on Software Engineering (ICSE 2017)*. Core RANK: A*.
<https://doi.org/10.1109/ICSE.2017.11>
- [80] C. Alexandru, S. Panichella, Harald Gall. **Reducing Redundancies in Multi-Revision Code Analysis.** In: *24th IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER) 2017. Klagenfurt, Austria*.
<https://doi.org/10.1109/SANER.2017.7884617>
- [81] S. Panichella, A. Di Sorbo, E. Guzman, C. Visaggio, G. Canfora, H. Gall. **ARdoc: App Reviews Development Oriented Classifier.** In: *24th ACM SIGSOFT International Symposium on the Foundations of Software Engineering will be held in Seattle, WA, USA*. Core RANK: A*.
<http://doi.acm.org/10.1145/2950290.2983938>
- [82] A. Di Sorbo, S. Panichella, C. V. Alexandru, J. Shimagaki, C. A. Visaggio, G. Canfora, H. Gall. **What Would Users Change in My App? Summarizing App Reviews for Recommending Software Changes.** In: *24th ACM*

SIGSOFT International Symposium on the Foundations of Software Engineering will be held in Seattle, WA, USA. Core RANK: A.
<http://doi.acm.org/10.1145/2950290.2950299>

- [83] A. Panichella, C. Alexandru, S. Panichella, A. Bacchelli, H. Gall. **A Search-based Training Algorithm for Cost-aware Defect Prediction.** *25th International Conference on Genetic Algorithms (ICGA) and the 21st Annual Genetic Programming Conference (GP) (GECCO 2016)*. Denver, Colorado, USA. Core RANK: A.
<http://doi.acm.org/10.1145/2908812.2908938>
- [84] S. Panichella, A. Panichella, M. Bella, A. Zaidman, H. Gall. **The impact of test case summaries on bug fixing performance: An empirical investigation.** In: *Proceedings of the 38th International Conference on Software Engineering (ICSE 2016)*, Austin, TX. Core RANK: A*.
<http://doi.acm.org/10.1145/2884781.2884847>
- [85] A. Di Sorbo, S. Panichella, C. Visaggio, M. Di Penta, G. Canfora, H. Gall. . **DECA: Development Emails Content Analyzer.** In: *Proceedings of the 38th International Conference on Software Engineering (ICSE 2016)*, Austin, TX. Core RANK: A*.
<http://doi.acm.org/10.1145/2889160.2889170>
- [86] S. Panichella. **Supporting Newcomers in Software Development Projects.** In: *Proceedings of the 31st International Conference on Software Maintenance and Evolution (ICSME 2015)*. Bremen, Germany. Core RANK: A.
<https://doi.org/10.1109/ICSM.2015.7332519>
- [87] A. Di Sorbo, S. Panichella, C. Visaggio, M. Di Penta, G. Canfora, H. Gall. **Development Emails Content Analyzer: Intention Mining in Developer Discussions.** In: *30th international conference on Automated Software Engineering (ASE 2015)*. Lincoln, Nebraska. Core RANK: A.
<https://doi.org/10.1109/ASE.2015.12>
- [88] S. Panichella, A. Di Sorbo, E. Guzman, C. Visaggio, G. Canfora, H. Gall. **How Can I Improve My App? Classifying User Reviews for Software Maintenance and Evolution.** In: *Proceedings of the 31st International Conference on Software Maintenance and Evolution (ICSME 2015)*. Bremen, Germany. Core RANK: A.
<https://doi.org/10.1109/ICSM.2015.7332474>
- [89] G. Schermann, M. Brandtner, S. Panichella, P. Leitner, H. Gall. **Discovering Loners and Phantoms in Commit and Issue Data.** In: *Proceedings of the 37th International Conference on Program Comprehension (ICPC 2015)*. Firenze, Italy. Core RANK: C.
<https://doi.org/10.1109/ICPC.2015.10>
- [90] S. Panichella, V. Arnaoudova, M. Di Penta, G. Antoniol. **Would Static Analysis Tools Help Developers with Code Reviews?.** In: *Proceedings of the 22nd International Conference on Software Analysis, Evolution and Reengineering (SANER 2015)*. Montreal, Canada.
<https://doi.org/10.1109/SANER.2015.7081826>

Conference Publications during the PhD experience⁵:

- [91] S. Panichella, G. Bavota, M. Di Penta, G. Canfora, G. Antoniol. **How Developers' Collaborations Identified from Different Sources Tell us About**

- Code Changes.** In: *Proceedings of the 30th International Conference on Software Maintenance and Evolution (ICSME 2014)*. Victoria, Canada. *Core RANK: A*.
<https://doi.org/10.1109/ICSME.2014.47>
- [92] G. Bavota, S. Panichella, N. Tsantalis, M. Di Penta, R. Oliveto, G. Canfora. **Recommending Refactorings based on Team Co-Maintenance Patterns..** In: *29th international conference on Automated Software Engineering (ASE 2014)*. Vasteras, Sweden. *Core RANK: A*.
<https://doi.org/10.1109/ICSE.2017.18>
- [93] C. Vassallo, S. Panichella, G. Canfora, M. Di Penta. **CODES: mining source Code Descriptions from developer discussions.** In: *Proceedings of the 36th International Conference on Program Comprehension (ICPC 2014)*. Hyderabad, India. *Core RANK: C*.
<http://doi.acm.org/10.1145/2597008.2597799>
- [94] S. Panichella, G. Canfora, M. Di Penta, R. Oliveto. **How the Evolution of Emerging Collaborations Relates to Code Changes: an Empirical Study.** In: *Proceedings of the 36th International Conference on Program Comprehension (ICPC 2014)*. Hyderabad, India. *Core RANK: C*.
<http://doi.acm.org/10.1145/2597008.2597145>
- [95] G. Bavota, G. Canfora, M. Di Penta, R. Oliveto, S. Panichella. ***The Evolution of Project Inter-Dependencies in a Software Ecosystem: the Case of Apache.** In: *Proceedings of the 29th International Conference on Software Maintenance (ICSM 2013)*. Eindhoven, Netherlands. *Core RANK: A*.
<https://doi.org/10.1109/ICSM.2013.39>
- [96] G. Bavota, G. Canfora, M. Di Penta, R. Oliveto, S. Panichella. ***An Empirical Investigation on Documentation Usage Patterns in Maintenance Tasks.** In: *Proceedings of the 29th International Conference on Software Maintenance (ICSM 2013)*. Eindhoven, Netherlands. *Core RANK: A*.
<https://doi.org/10.1109/ICSM.2013.32>
- [97] G. Canfora, M. Di Penta, S. Giannantonio, R. Oliveto, S. Panichella. ***YODA: Young and newOmer Developer Assistant.** In: *Proceedings of the 35th International Conference on Software Engineering (ICSE 2013)*. San Francisco, CA, USA. *Core RANK: A**.
<https://doi.org/10.1109/ICSE.2013.6606710>
- [98] G. Canfora, A. De Lucia, M. Di Penta, R. Oliveto, A. Panichella, S. Panichella. ***Multi-Objective Cross-Project Defect Prediction.** In: *Proceedings of the 7th International Conference on Software Testing, Verification and Validation (ICST 2013)*. Luxembourg. *Core RANK: A*.
<https://doi.org/10.1109/ICST.2013.38>
- [99] G. Canfora, M. Di Penta, R. Oliveto, S. Panichella. ***Who is going to Mentor Newcomers in Open Source Projects?.** In: *Proceedings of the 29th ACM SIGSOFT International Symposium on Foundations of Software Engineering (FSE 2012)*. Cary, North Carolina, USA. *Core RANK: A**.
<http://doi.acm.org/10.1145/2393596.2393647>
- [100] A. De Lucia, M. Di Penta, R. Oliveto, A. Panichella, S. Panichella. ***Using IR Methods for Labeling Source Code Artifacts: Is It Worthwhile?.** In: *Proceedings of the 20th IEEE International Conference on Program Comprehension (ICPC)*, 2012. Passau, Germany. *Core RANK: C*.
[doi:https://doi.org/10.1109/ICPC.2012.6240488](https://doi.org/10.1109/ICPC.2012.6240488)

- [101] S. Panichella, J. Aponte, M. Di Penta, A. Marcus, G. Canfora. **Mining source code descriptions from developer communications**. In: *Proceedings of the 20th IEEE International Conference on Program Comprehension (ICPC)*, 2012. Passau, Germany. *Core RANK: C*.
<https://doi.org/10.1109/ICPC.2012.6240510>
- [102] A. De Lucia, M. Di Penta, R. Oliveto, A. Panichella, S. Panichella. ***Improving IR-based Traceability Recovery Using Smoothing Filters**. In: *Proceedings of the 19th IEEE International Conference on Program Comprehension (ICPC)* 2011. Kingston, ON, Canada. *Core RANK: C*.
<https://doi.org/10.1109/ICPC.2011.34>

Conference Publications during the bachelor and master studies⁶:

- [103] G. Capobianco, A. De Lucia, R. Oliveto, A. Panichella, S. Panichella. ***On the role of the nouns in IR-based traceability recovery**. In: *Proceedings of the 19th IEEE International Conference on Program Comprehension (ICPC)* 2009. Vancouver, British Columbia, Canada. *Core RANK: C*.
<https://doi.org/10.1109/ICPC.2009.5090038>
- [104] G. Capobianco, A. De Lucia, R. Oliveto, A. Panichella, S. Panichella. ***Traceability Recovery Using Numerical Analysis**. In: *Proceedings of the 16th IEEE Working Conference on Reverse Engineering (WCRE)* 2009. Lille, France. *Core RANK: B*.
<https://doi.org/10.1109/WCRE.2009.14>

CONTRIBUTION TO
EDUCATION
(CHAPTERS AND
BOOKS):

1. Sebastiano Panichella is editor of the book: "Roadmap for DevOps in Cyber-physical Systems: Challenges and Future Directions", 2025.
2. Sebastiano Panichella contribution to the book: "**Large Language Models in Cybersecurity and Cyberdefense: Novel Threats and Mitigations Perspectives**", with the chapters "Vulnerabilities Introduced by LLMs through Code Suggestions" and "Enhancing Security Awareness and Education for Large Language Models". (2024)
3. Harald C. Gall, Carol V. Alexandru, Adelina Ciurumelea, Giovanni Grano, Christoph Laaber, Sebastiano Panichella, Sebastian Proksch, Gerald Schermann, Carmine Vassallo, Jitong Zhao: **Data-Driven Decisions and Actions in Today's Software Development**. *The Essence of Software Engineering*: 137-168. (2018)