

Software Center: Publications 2018

- Antinyan, V., Derehag, J., Sandberg, A. and Staron, M., 2018. Mythical Unit Test Coverage. *IEEE Software*, 35(3), pp.73-79.
- Terese Besker, Antonio Martini, Jan Bosch: "Managing architectural technical debt: A unified model and systematic literature review". *Journal of Systems and Software* 135: 1-16 (2018)
- Terese Besker, Antonio Martini, Jan Bosch: "Technical debt cripples software developer productivity: a longitudinal study on developers' daily software development work". *TechDebt@ICSE 2018*: 105-114
- Terese Besker, Antonio Martini, Rumesh Edirisooriya Lokuge, Kelly Blincoe, Jan Bosch: "Embracing Technical Debt, from a Startup Company Perspective". *ICSME 2018*: 415-425
- Terese Besker: "An Empirical Investigation of the Harmfulness of Architectural Technical Debt". Licentiate thesis, Chalmers University of Technology, 2018
- Bosch, J., and Olsson H.H. (2018). Ecosystem Traps and Where to Find Them. *Journal of Software Evolution and Process*, Vol. 30, Issue 11.
- Çalikli, G., Staron, M. and Meding, W., 2018, May. Measure early and decide fast: transforming quality management and measurement to continuous deployment. In *Proceedings of the 2018 International Conference on Software and System Process* (pp. 51-60). ACM.
- Durisic, D., Luo, Y., Staron, M. and Dajsuren, Y., 2018, April. Message from the WASA 2018 Organizing Committee. In *2018 IEEE International Conference on Software Architecture Companion (ICSA-C)* (pp. 115-115). IEEE.
- A. Fabijan, P. Dmitriev, H. H. Olsson, and J. Bosch, "The (Un)Surprising Impact of Online Controlled Experimentation," *IEEE Software*
- Fabijan, A., Dmitriev, P., McFarland, C., Vermeer, L., Holmström Olsson, H. and Bosch, J. 2018. Experimentation growth: Evolving trustworthy A/B testing capabilities in online software companies. *Journal of Software: Evolution and Process*. (Nov. 2018), e2113. DOI:<https://doi.org/10.1002/smr.2113>.
- Fabijan, A., Dmitriev, P., Olsson, H.H. and Bosch, J. 2018. Effective Online Experiment Analysis at Large Scale. In *Proceedings of the 2018 44rd Euromicro Conference on Software Engineering and Advanced Applications (SEAA)* (Prague, Czechia., August 2018).
- Fabijan, A., Dmitriev, P., Olsson, H.H. and Bosch, J. 2018. Online Controlled Experimentation at Scale: An Empirical Survey on the Current State of A/B Testing. In *Proceedings of the 2018 44rd Euromicro Conference on Software Engineering and Advanced Applications (SEAA)* (Prague, Czechia., August 2018).
- Fabijan, A., Dmitriev, P., Olsson, H.H. and Bosch, J. 2018. The Experiment Lifecycle. To appear in *IEEE Software*. (November 2018).
- Fabijan, A., Dmitriev P., Olsson, H.H, Bosch, J., Vermeer, L., Lewis, D. Three Key Checklists and Remedies for Trustworthy Analysis of Online Controlled Experiments at Scale. Accepted to *IEEE International Conference on Software Engineering (ISCE'19)*, Software Engineering In Practice track. 25 May - 31 May 2019, Montreal, Canada.
- Fabijan, A. Data-Driven Development at Large Scale, PhD Thesis, June 2018
- Francisco G. de Oliveira Neto, Azeem Ahmad, Ola Leifler, Kristian Sandahl, and Eduard Enoiu. 2018. Improving continuous integration with similarity-based test case selection. In *Proceedings of the 13th International Workshop on Automation of Software Test (AST '18)*. ACM, New York, NY, USA, 39-45. DOI: <https://doi.org/10.1145/3194733.3194744>

Software Center: Publications 2018

- S. Gupta, S. Bhardwaj, P. Dmitriev, U. Lucy, A. Fabijan, and P. Raff, "The Anatomy of a Large-Scale Online Experimentation Platform". In Proceedings of 2018 IEEE International Conference on Software Architecture, ICISA'18, Seattle, USA, 2018.
- Halali, S., Staron, M., Ochodek, M. and Meding, W., 2019, January. Improving Defect Localization by Classifying the Affected Asset Using Machine Learning. In International Conference on Software Quality (pp. 106-122). Springer, Cham.
- Horkoff, J.; Lindman, J.; Hammouda, I. & Knauss, E.: Experiences Applying e3 Value Modeling in a Cross-Company Study. In: Proceedings of 37th International Conference on Conceptual Modeling (ER 2018), 2018
- Horkoff, J.; Lindmann, J.; Hammouda, I.; Knauss, E.; Debbiche, J.; Freiholtz, M.; Liao, P.; Mensah, S. & Strömberg, A.: Modeling Support for Strategic API Planning and Analysis. In: Proc. of Int. Conf. on Software Business (ICSOB), 2018
- Robbert Jongeling; Jan Carlson; Antonio Cicchetti; Federico Ciczozzi "Continuous integration support in modeling tools". In International Workshop on Collaborative Modelling in MDE (COMMitMDE), 2018
- Kasauli, R.; Knauss, E.; Kanagwa, B.; Nilsson, A. & Calikli, G.: Safety-Critical Systems and Agile Development: A Mapping Study. In: Proc. of Euromicro SEAA, 2018
- Knauss, E.; Liebel, G.; Horkoff, J.; Wohlrab, R.; Kasauli, R.; Lange, F. & Gildert, P.: T-Reqs: Tool Support for Managing Requirements in Large-Scale Agile System Development. In: Proceedings of 26th IEEE International Requirements Engineering Conference (RE'18), Demo Track, Banff, Canada, 2018
- Elena Lisova, Aida Causevic, Kaj Hänninen, Henrik Thane and Hans Hansson. "A Systematic Way to Incorporate Security in Safety Analysis". In Proceedings of the 3rd Workshop on Security and Dependability of Critical Embedded Real-Time Systems. 2018
- Juho Lindman, Jennifer Horkoff, Imed Hammouda and Eric Knauss: Emerging Perspectives of API Strategy. In: IEEE Software, 2019
- Antonio Martini, Terese Besker, Jan Bosch: "Technical Debt tracking: Current state of practice: A survey and multiple case study in 15 large organizations". Sci. Comput. Program. 163: 42-61 (2018)
- A Martini: "Anacondebt: a tool to assess and track technical debt". In IEEE/ACM International Conference on Technical Debt (TechDebt), 55-56, 2018
- A Martini, FA Fontana, A Biaggi, R Roveda: "Identifying and prioritizing architectural debt through architectural smells: A case study in a large software company" European Conference on Software Architecture, 320-335, 2018
- A Martini, E Sikander, N Madlani: "A semi-automated framework for the identification and estimation of Architectural Technical Debt: A comparative case-study on the modularization of a software component", Information and Software Technology 93, 264-279, 2018
- D. I. Mattos, P. Dmitriev, A. Fabijan, J. Bosch, and H. Holmström Olsson, "An Activity and Metric Model for Online Controlled Experiments," in in the Proceedings of the 19th International Conference on Product-Focused Software Process Improvement, 2018, pp. 182–198.
- D. I. Mattos, E. Mårtensson, J. Bosch, and H. H. Olsson. Optimization Experiments in the Continuous Space the Limited Growth Optimistic Optimization Algorithm. (To appear in the Proceedings of the 10th Symposium on Search-Based Software Engineering, 2018, pp. 1–15).
- D. I. Mattos, J. Bosch, and H. H. Olsson. Challenges and Strategies for Undertaking Continuous Experimentation to Embedded Systems: Industry and Research Perspectives. In Proceedings of the 19th International Conference on Agile Software Development, 2018, pp. 1–15.

Software Center: Publications 2018

- D. I. Mattos, "Towards Automated Experiments in Software Intensive Systems," Licentiate Thesis, Chalmers University of Technology, 2018.
- D. I. Mattos, J. Bosch, H. H. Olsson, A. Dakkak, and K. Bergh, "Automated Optimization of Software Parameters in a Long Term Evolution Radio Base Station," in IEEE 13th Annual International Systems Conference, 2019, pp. 1–8."
- Maro, S., Steghöfer, J.P. and Staron, M., 2018. Software traceability in the automotive domain: Challenges and solutions. *Journal of Systems and Software*, 141, pp.85-110.
- Maro, S., Steghöfer, J.P., Hayes, J., Cleland-Huang, J. and Staron, M., 2018, August. Vetting automatically generated trace links: what information is useful to human analysts?. In 2018 IEEE 26th International Requirements Engineering Conference (RE) (pp. 52-63). IEEE.
- T. Mårtensson, D. Ståhl, and J. Bosch, "Enable more frequent integration of software in industry projects", *Journal of Systems and Software* 142, pp. 223-236, 2018.
- Nadi, S., Hedström, J. and Staron, M., 2018, August. Using Self-Healing to Increase Robustness of Handling In-Browser Third-Party Content. In 2018 44th Euromicro Conference on Software Engineering and Advanced Applications (SEAA) (pp. 210-213). IEEE.
- Olsson, H.H., and Bosch, J. (2018). Singing the Praise of Empowerment or Paying the Cost of Chaos. In Proceedings of the Euromicro Conference on Software Engineering and Advanced Applications (SEAA), August 29th – 31st, Prague, Czech Republic.
- Rana, R., Lagercrantz, T. and Staron, M., 2018, April. Building an Effective Software Issues Scorecard: An Action Research Report from the Automotive Domain. In 2018 IEEE International Conference on Software Architecture Companion (ICSA-C) (pp. 136-143). IEEE.
- D. Ståhl, and T. Mårtensson, *Continuous practices: a strategic approach to accelerating the software production system*, Lulu Press, 2018
- Staron, M., Sahraoui, H., & Telea, A. (2018). Special section on Visual Analytics in Software Engineering.
- Staron, M., Meding, W., Tichy, M., Bjurhede, J., Giese, H. and Söder, O., 2018. Industrial experiences from evolving measurement systems into self-healing systems for improved availability. *Software: Practice and Experience*, 48(3), pp.719-739.
- Staron, M. and Meding, W., 2018. Examples of Measures in Measurement Systems. In *Software Development Measurement Programs* (pp. 165-201). Springer, Cham.
- Staron, M., Meding, W., Söder, O. and Bäck, M., 2018. Measurement and Impact Factors of Speed of Reviews and Integration in Continuous Software Engineering. *Foundations of Computing and Decision Sciences*, 43(4), pp.281-303.
- Staron, M. and Meding, W., 2018. *Software Development Measurement Programs: Development, Management and Evolution*. Springer.
- Staron, M., 2019, January. Action Research in Software Engineering: Metrics' Research Perspective (Invited Talk). In *International Conference on Current Trends in Theory and Practice of Informatics* (pp. 39-49). Springer, Cham.
- Staron, M. and Meding, W., 2018. Tooling in Measurement Programs. In *Software Development Measurement Programs* (pp. 117-163). Springer, Cham.
- Staron, M. and Meding, W., 2018. Maintaining and Evolving Measurement Programs. In *Software Development Measurement Programs* (pp. 225-250). Springer, Cham.

Software Center: Publications 2018

Staron, M. and Meding, W., 2018. Quality of Measurement Programs. In Software Development Measurement Programs (pp. 83-115). Springer, Cham.

Staron, M., Niesel, K. and Bauman, N., 2018. Milestone-Oriented Usage of Key Performance Indicators—An Industrial Case Study. *e-Informatica Software Engineering Journal*, 12(1).

Staron, M. and Meding, W., 2018. Fundamentals. In Software Development Measurement Programs (pp. 19-45). Springer, Cham.

Staron, M. and Meding, W., 2018. New Techniques. In Software Development Measurement Programs (pp. 203-224). Springer, Cham.

Staron, M. and Meding, W., 2018. Measurement Program. In Software Development Measurement Programs (pp. 47-82). Springer, Cham.

Van der Valk, R.; Pelliccione, P.; Lago, P.; Heldal, R.; Knauss, E. and Juul, J.: Transparency and Contracts: Continuous Integration and Delivery in the Automotive Ecosystem. Proceedings of 40th Int. Conference on Software Engineering (ICSE), SEIP Track, Gothenburg, Sweden, 2018

Wen, S., Nilsson, C. and Staron, M., 2018, May. Assessing the release readiness of engine control software. In Proceedings of the 1st International Workshop on Software Qualities and Their Dependencies (pp. 5-12). ACM.

Wohlrab, R.; Knauss, E.; Steghöfer, J.-P.; Maro, S.; Anjorin, A. and Pelliccione, P.: Collaborative Traceability Management: A Multiple Case Study from the Perspectives of Organization, Process, and Culture. In: Requirements Engineering (REEN), 2018