

COMPLETE LIST OF PUBLICATIONS, PROF. DR. RER. NAT. MALTE LOCHAU

(02/2021)

Editorials & Proceedings

- [1] R. Capilla., M. Lochau, L. Fuentes: Software Variability in Dynamic Environments. *Journal of Systems and Software (JSS)*, Volume 156, pages 62-64, 2019
- [2] R. Capilla., M. Lochau, L. Fuentes: Proceedings of the Proceedings of the 12th International Workshop on Variability Modelling of Software-Intensive Systems (VAMOS 2018), Madrid, Spain, February 7-9, ACM, 2018.

Refereed Journal Articles

- [3] G. Kulcsár, A. Corradini, M. Lochau: A Calculus of Concurrent Graph-Rewriting Processes. In: *Journal of Logical and Algebraic Methods in Programming*. Volume 110, 2020
- [4] D. Reuling, U. Kelter, J. Bürdek, M. Lochau: Automated N-way Program Merging for Facilitating Family-based Analyses of Variant-Rich Software. In *ACM Transactions of Software Engineering and Methodologies*, 2019.
- [5] M. Varshosaz, L. Luthmann, P. Mohr, M. Lochau and M. R. Mousavi: Modal Transition System Encoding of Featured Transition Systems. In *Journal of Logical and Algebraic Methods in Programming*, 2019.
- [6] L. Luthmann, T. Gerecht, A. Stephan, J. Bürdek, M. Lochau: Minimum/Maximum Delay Testing of Product Lines with Unbounded Parametric Real-time Constraints. In *Journal of Systems and Software*, 2019
- [7] L. Luthmann, S. Mennicke, M. Lochau: Unifying Modal Interface Theories and Compositional Input/Output Conformance Testing. In *Science of Computer Programming*, 2019
- [8] L. Luthmann, T. Gerecht, M. Lochau: Sampling Strategies for Product Lines with Unbounded Parametric Real-time Constraints. In *Springer LNCS Transactions on Foundations for Mastering Change*, 2019
- [9] M. Al-Hajjaji, T. Thüm, M. Lochau, J. Meinicke, G. Saake: Effective Product-Line Testing Using Similarity-Based Product Prioritization. In *Journal of Software & Systems Modeling*, 2016
- [10] J. Bürdek, T. Kehrer, M. Lochau, D. Reuling, U. Kelter, and A. Schürr: Reasoning about Product-Line Evolution using Complex Feature Model Differences. In *Automated Software Engineering Journal, Special Issue on Long Term Evolution of Software Systems*, pages 1-47, Springer, 2015.
- [11] M. Lochau, S. Mennicke, H. Baller, and L. Ribbeck: Incremental Model Checking of Delta-Oriented Software Product Lines. In *Journal of Logical and Algebraic Methods in Programming*, 69, Springer, 2015.

- [12] M. Lochau, J. Bürdek, S. Hölzle, A. Schürr: Specification and Automated Validation of Staged Configuration Processes for Dynamic Software Product Lines. In *Journal of Software & Systems Modeling*, pages 1-28, Springer, 2015.
- [13] M. Lochau, J. Bürdek, S. Lity, M. Hagner, C. Legat, U. Goltz, and A. Schürr: Applying Model-based Software Product Line Testing Approaches to the Automation Engineering Domain. In *Automatisierungstechnik*, 62(11), pages 771–780, 2014.
- [14] M. Lochau, S. Lity, R. Lachmann, I. Schaefer, U. Goltz: Delta-oriented model-based Integration Testing of Large-scale Systems. In *Journal of Systems and Software*, 91, pages 63-84, 2014.
- [15] S. Lity, R. Lachmann, M. Lochau, M. Dukaczewski, and I. Schaefer: Delta-orientiertes Testen von variantenreichen Systemen. In *OBJEKTSpektrum Online, Themenspecial Testing*, Sigis Datacom GmbH, 2013.
- [16] M. Lochau, S. Oster, U. Goltz, A. Schürr: Model-based pairwise testing for feature interaction coverage in software product line engineering. In *Software Quality Journal (SQJ)*, 20(3-4), pages 567-604, 2012.
- [17] M. Gietzelt, U. Goltz, D. Grunwald, M. Lochau, M. Marschollek, B. Song, K.-H. Wolf: Arden2ByteCode: A one-pass Arden Syntax compiler for service-oriented decision support systems based on the OSGi platform. In *Computer Methods and Programs in Biomedicine*, 106(2), pages 114-125, 2012.
- [18] M. Lochau and U. Goltz: Feature Interaction Aware Test Case Generation for Embedded Control Systems. In *Electronic Notes in Theoretical Computer Science (ENTCS)*, 264(3), pages 37-52, Elsevier, 2010.

Refereed Book Chapters

- [19] M. Lochau, D. Reuling, J. Bürdek, T. Kehrer, S. Lity, A. Schürr, and Udo Kelter: Model-Based Round-Trip Engineering and Testing of Evolving Software Product Lines. In *Software Managed Evolution*, Springer, 2019.
- [20] T. Thüm, A. van Hoorn, S. Apel, J. Bürdek, S. Getir, R. Heinrich, R. Jung, M. Kowal, M. Lochau, I. Schaefer and J. Walter: Performance Analysis Strategies for Software Variants and Versions. In *Software Managed Evolution*, Springer, 2019.
- [21] M. Lochau, S. Peldszus, M. Kowal, I. Schaefer: Model-based Testing. In *Advanced Lectures of the 14th International School on Formal Methods for the Design of Computer, Communication, and Software Systems (SFM)*, pages 310-342, Springer, 2014.

Refereed Conference Papers

- [22] H. Göttmann, I. Bacher, N. Gottwald, M. Lochau: Static Analysis Techniques for Efficient Consistency Checking of Real-Time-Aware DSPL Specifications. In: *Proceedings of Working Conference on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 17:1-17:9, 2021

- [23] T. Pett, S. Krieter, T. Runge, T. Thüm, M. Lochau, I. Schaefer: Stability of Product-Line Sampling in Continuous Integration. In: *Proceedings of Working Conference on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 18:1-18:9, 2021
- [24] V. Kutscher, S. Ruland, P. Müller, N. Wasser, M. Lochau, R. Anderl, A. Schürr, M. Mezini, R-Hähle: Towards a Circular Economy of Industrial Software. In: *Proceedings of 27th CIRP Life Cycle Engineering (LCE) Conference*, Volume 90, pages 37-42, 2020
- [25] J. Soldani, L. Luthmann, M. Lochau, A. Brogi: Testing Conformance in Multi-component Enterprise Application Management. In: *Proceedings of the European Conference on Service-Oriented and Cloud Computing (ESOCC)*, pages 3-18, 2020
- [26] S. Ruland, M. Lochau, M.-C. Jakobs: HybridTiger: Hybrid Model Checking and Domination-based Partitioning for Efficient Multi-Goal Test-Suite Generation (Competition Contribution). In *Proceedings of Fundamental Approaches to Software Engineering (FASE)*, pages 520-524, Springer, 2020
- [27] M. Lochau, L. Luthmann, H. Göttmann, I. Bacher: Parametric Timed Bisimulation. In: *Proceedings of International Symposium on Leveraging Applications of Formal Methods, Verification and Validation (ISoLA)*, pages 55–71, Springer, 2020.
- [28] D. Reuling, U. Kelter, J. Bürdek, M. Lochau: On Automated N-way Program Merging for Facilitating Family-based Analyses of Variant-rich Software. In: *Software Engineering, Gesellschaft für Informatik e.V.*, pages 55-56, 2020.
- [29] S. Ruland, G. Kulcsár, E. Leblebici, S. Peldszus, M. Lochau: On Controlling the Attack Surface of Object-Oriented Refactorings. In: *Software Engineering, Gesellschaft für Informatik e.V.*, pages 89-90, 2020.
- [30] H. Göttmann, L. Luthmann, M. Lochau, A. Schürr: Real-time-aware Reconfiguration Decisions for Dynamic Software Product Lines. In *Proceedings of International Software Product Line Conference (SPLC)*, 2020
- [31] T. Pett, T. Thüm, T. Runge, S. Krieter, M. Lochau and I. Schaefer: Product Sampling for Product Lines: The Scalability Challenge. In *Proceedings of International Software Product Line Conference (SPLC)*, 2019
- [32] D. Reuling, M. Lochau, U. Kelter: From Imprecise N-Way Model Matching to Precise N-Way Model Merging. In *Proceedings of European Conference on Modeling Foundations and Applications (ECMFA)*, 2019
- [33] M. Weckesser, M. Lochau, M. Ries, A. Schürr: Mathematical Programming for Anomaly Analysis of Clafar Models. In *Proceedings of International Conference on Model Driven Engineering Languages and Systems (MoDELS)*, pages 34 – 44, 2018
- [34] S. Ruland, L. Luthmann, J. Bürdek, S. Lity, T. Thüm, M. Lochau, M. Ribeiro: Measuring Effectiveness of Sample-based Product-Line Testing. In *Proceedings of International Conference on Generative Programming: Concepts and Experiences (GPCE)*, pages 119 – 133, 2018

- [35] G. Kulcsár, M. Lochau, A. Schürr: Graph-Rewriting Petri Nets. In *Proceedings of International Conference on Graph Transformation (ICGT)*, pages 79-96, 2018
- [36] G. Kulcsár, A. Corradini, M. Lochau: Equivalence and Independence in Controlled Graph-Rewriting Processes. In *Proceedings of International Conference on Graph Transformation (ICGT)*, pages 134-151, 2018
- [37] S. Ruland, G. Kulcsár, E. Leblebici, S. Peldszus, M. Lochau: Controlling the Attack Surface on Object-Oriented Refactorings. In *Proceedings of Fundamental Approaches to Software Engineering (FASE)*, pages 38-55, 2018
- [38] S. Peldszus, G. Kulcsár, M. Lochau, S. Schulze: On Continuous Detection of Design Flaws in Evolving Object-Oriented Programs using Incremental Multi-Pattern Matching. In *Proceedings of Software Engineering (SE)*, pages 143-144, 2018
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- [40] J. Bürdek, T. Kehrer, M. Lochau, D. Reuling, U. Kelter, A. Schürr: Reasoning about Product-Line Evolution using Complex Feature Model Differences. In *Proceedings of Software Engineering 2017*, pages 67 – 68, 2017
- [41] M. Weckesser, M. Lochau, T. Schnabel, B. Richerzhagen, A. Schürr: On Automated Anomaly Detection for Potentially Unbounded Cardinality based Feature Models. In *Proceedings of Software Engineering 2017*, pages 125 – 126, 2017
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- [43] M. Al-Hajjaji, S. Krieter, T. Thüm, M. Lochau, G. Saake: Incling: Efficient Product-Line Testing using Incremental Pairwise Sampling. In *Proceedings of International Conference on Generative Programming: Concepts & Experiences (GPCE)*, pages 144 - 155, 2016
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- [45] C. Krupitzer, F. M. Roth, C. Becker, M. Weckesser, M. Lochau, A. Schürr: FESAS IDE: An Integrated Development Environment for Automatic Computing. In *Proceedings of International Conference on Autonomous Computing (ICAC)*, pages 15-24, 2016
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- [57] M. Lochau, I. Schaefer, J. Kamischke, and S. Lity: Incremental Model-based Testing of Delta-oriented Software Product Lines. In *Proceedings of International Conference Tests and Proofs (TAP)*, pages 67-82, Springer, 2012.
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- [67] M. Varshosaz, M.R. Mousavi, L. Luthmann, M. Lochau, Malte: Expressive Power and Encoding of Transition System Models for Software Product Lines. In: *Proceedings of Nordic Workshop on Programming Theory (NWPT)*, 2017
- [68] M. Weckesser, M. Lochau, M. Ries, A. Schürr: Towards Complete Consistency Checks of Clafer Models. In *Proceedings of International Workshop on Feature-Oriented Software Development (FOSD)*, ACM, 2017
- [69] T. Schnabel, M. Weckesser, R. Kluge, M. Lochau, A. Schürr: CardyGAN: Tool Support for Cardinality-based Feature Models. In *Proceedings of Workshop on Variability Modelling of Softwareintensive Systems (VaMoS)*, ACM, 2016.
- [70] F. Deckwerth, G. Kulcsár, M. Lochau, G. Varró, A. Schürr: Conflict Detection for Edits on Extended Feature Models using Symbolic Graph Transformation. In *Proceedings of Workshop on Formal Methods and Analysis in SPL Engineering (FMSPLE)*, pages 17–31, 2016.
- [71] F. Benduhn, T. Thüm, M. Lochau, T. Leich, and G. Saake: A Survey on Modeling Techniques for Formal Behavioral Verification of Software Product Lines. In *Proceedings of International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, ACM, 2015.
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- [77] H. Baller and M. Lochau: Towards Incremental Test Suite Optimization for Software Product Lines: In *Proceedings of International Workshop on Feature-Oriented Software Development (FOSD)*, pages 30–36, ACM, 2014.
- [78] K. Saller, M. Lochau, and I. Reimund: Context-Aware DSPLs: Model-Based Runtime Adaptation for Resource-Constrained Systems. In *Proceedings International Software Product Line Conference co-located Workshops*, pages 106 – 113, ACM, 2013.
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- [80] M. Dukaczewski, I. Schaefer, R. Lachmann, and M. Lochau: Requirements-Based Delta-Oriented SPL Testing. In *Proceedings of International Workshop on Product Line Approaches in Software Engineering (PLEASE)*, pages 49-52, IEEE, 2013.
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- [99] J. Schroeter, M. Lochau, and T. Winkelmann: Extended Version of Multi-Perspectives on Feature Models. *Technical Report TU-FI11-07*, TU Dresden, 2011.
- [100] Hans J. Boehm, Ursula Goltz, Holger Hermanns, Peter Sewell (Eds.), edited in cooperation with Christian Eisentraut and Malte Lochau: Multi-Core Memory Models and Concurrency Theory (Dagstuhl Seminar 11011), *Dagstuhl Reports, Schloss Dagstuhl - Leibniz-Zentrum für Informatik*, 2011
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Teaching Material

- [106] U. Goltz, T. Gehrke, M. Lochau: Vorlesungsskript Compilerbau. TU Braunschweig, 2010
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