

Luciano Marchezan, Dr.

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🌐 <https://lucianomarchezan.github.io/>
🎓 <https://scholar.google.com/citations?user=26yB7xkAAAAJ&hl>
📈 Citations: 342, h-index: 10



Summary

Has experience in Computer Science, focusing on Software Engineering. Currently, a Post Doctoral Researcher at the Department of Computer Science and Operations Research (DIRO) at the University of Montreal. The current research includes AI for Software Engineering, Software Modernization, Empirical Software Engineering, and Model-Driven Software Engineering.

Previously, a Post Doctoral Researcher at the Institute of Software Systems Engineering (ISSE) at Johannes Kepler University, Austria.

Obtained the Ph.D. diploma at the Institute of Software Systems Engineering (ISSE) at the Johannes Kepler University (JKU), supervised by Prof. Dr. Alexander Egyed on the topic of consistency maintenance for model-based collaborative environments.

Employment History

2025 – ...	Postdoc Researcher - Department of Computer Science and Operations Research (DIRO) at the University of Montreal, Montreal, Canada
2023 – 2025	University Assistant/Postdoc Researcher - Institute of Software Systems Engineering - Johannes Kepler University, Linz, Austria
2020 – 2023	University Assistant/Predoc Researcher - Institute of Software Systems Engineering - Johannes Kepler University, Linz, Austria
2019 – 2020	Full Stack Developer - Capataz, Sustainable Livestock, Alegrete RS - Brazil. Full Stack Developer - EletroVirtual, Alegrete RS - Brazil.
2017 – 2017	Full Stack Developer - Porthal Sistemas, Alegrete RS - Brazil.
2014 – 2014	Front End Developer - GreenWays2Go, Chigao IL - USA.

Education

2021 – 2023	Ph.D. Computer Science at Johannes Kepler University, Linz, Austria. Thesis title: <i>Improving Consistency Maintenance for Collaborative Software Systems Engineering</i> .
2019 – 2020	M.Sc. Software Engineering , at Universidade Federal do Pampa, Alegrete, Brazil. Thesis title: <i>PAXSPL: A generic framework to support the planning of SPL reengineering</i> .
2012 – 2018	B.Sc. Software Engineering , at Universidade Federal do Pampa, Alegrete, Brazil. Thesis title: <i>PAXSPL: a Feature Retrieval Process for Software Product Line Re-engineering</i> .

Research Publications

Journal Articles

- 1 M. Homolka, L. Marchezan, W. K. Assunção, and A. Egyed, ““what really happened to my models?”, extending co-evolution with cross-layer traceability in metamodel-model histories”, *Empirical Software Engineering*, 2026, Just accepted.
- 2 W. K. G. Assunção, L. Marchezan, L. Arkoh, A. Egyed, and R. Ramler, “Contemporary software modernization: Strategies, driving forces, and research opportunities”, *ACM Trans. Softw. Eng. Methodol.*, Dec. 2024, ISSN: 1049-331X. [DOI: 10.1145/3708527](#)

- 3 E. Herac, L. Marchezan, W. K. G. Assunção, and A. Egyed, "Conflict-based change awareness for collaborative model-driven software engineering," *Journal of Object Technology*, vol. 23, no. 3, pp. 1–14, Jul. 2024, The 20th European Conference on Modelling Foundations and Applications (ECMFA 2024), ISSN: 1660-1769. [DOI: 10.5381/jot.2024.23.3.a7](https://doi.org/10.5381/jot.2024.23.3.a7)
- 4 C. Mayr-Dorn, C.-C. Ratiu, L. Marchezan, F. Keplinger, A. Egyed, and G. Walden, "Actionable light-weight process guidance," *Journal of Systems and Software*, vol. 214, p. 112 064, 2024, ISSN: 0164-1212. [DOI: https://doi.org/10.1016/j.jss.2024.112064](https://doi.org/10.1016/j.jss.2024.112064)
- 5 L. Marchezan, R. Kretschmer, W. Assunção, A. Reder, and A. Egyed, "Generating repairs for inconsistent models," *Software and Systems Modeling*, 2022, ISSN: 16191374. [DOI: 10.1007/s10270-022-00996-0](https://doi.org/10.1007/s10270-022-00996-0)
- 6 L. Marchezan, E. Rodrigues, W. Assunção, M. Bernardino, F. Basso, and J. Carbonell, "Software product line scoping: A systematic literature review," *Journal of Systems and Software*, vol. 186, 2022, ISSN: 01641212. [DOI: 10.1016/j.jss.2021.111189](https://doi.org/10.1016/j.jss.2021.111189)
- 7 M. Tröls, L. Marchezan, A. Mashkoor, and A. Egyed, "Instant and global consistency checking during collaborative engineering," *Software and Systems Modeling*, vol. 21, 6 2022, ISSN: 16191374. [DOI: 10.1007/s10270-022-00984-4](https://doi.org/10.1007/s10270-022-00984-4)
- 8 A. Iung et al., "Systematic mapping study on domain-specific language development tools," *Empirical Software Engineering*, vol. 25, 5 2020, ISSN: 15737616. [DOI: 10.1007/s10664-020-09872-1](https://doi.org/10.1007/s10664-020-09872-1)
- 9 L. Marchezan, E. M. Rodrigues, M. Bernardino, and F. P. Basso, "PAXSPL: A feature retrieval process for software product line reengineering," *Software - Practice and Experience*, vol. 49, 8 2019, ISSN: 1097024X. [DOI: 10.1002/spe.2707](https://doi.org/10.1002/spe.2707)
- 10 M. Bernardino, E. Rodrigues, A. Zorzo, and L. Marchezan, "Systematic mapping study on mbt: Tools and models," *IET Software*, vol. 11, 4 2017, ISSN: 17518806. [DOI: 10.1049/iet-sen.2015.0154](https://doi.org/10.1049/iet-sen.2015.0154)

Conference Proceedings

- 1 S. V. Desai, S. Bhide, S. Serbout, L. Marchezan, and W. K. G. Assunção, "Priotestci: Efficient test case prioritization in github workflows for ci optimization," in *40th IEEE/ACM International Conference on Automated Software Engineering (ASE): Tool Demonstration*, 2025.
- 2 M. Homolka, L. Marchezan, W. K. Assunção, and A. Egyed, "Going from the past back to the future: Incrementally reconstructing a metamodel history," in *Proceedings of the ACM/IEEE 28th International Conference on Model Driven Engineering Languages and Systems*, 2025.
- 3 W. K. G. Assunção, L. Marchezan, A. Egyed, and R. Ramler, "Contemporary software modernization: Perspectives and challenges to deal with legacy systems," in *2030 Software Engineering*, 2024. eprint: 2407.04017. [URL: https://arxiv.org/abs/2407.04017](https://arxiv.org/abs/2407.04017)
- 4 M. Homolka, L. Marchezan, W. K. Assunção, and A. Egyed, "'Don't Touch my Model!' Towards Managing Model History and Versions during Metamodel Evolution," in *2024 IEEE/ACM 45th International Conference on Software Engineering: New Ideas and Emerging Results (ICSE-NIER)*, 2024.
- 5 M. Homolka, L. Marchezan, W. K. Assunção, and A. Egyed, "'What Happened to my Models?' History-Aware Co-Existence and Co-Evolution of Metamodels and Models," in *International Conference on Software Maintenance and Evolution (ICSME)*, 2024.
- 6 L. Marchezan, W. K. Assunção, E. Herac, S. Shafiq, and A. Egyed, "Exploring dependencies among inconsistencies to enhance the consistency maintenance of models," in *IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER)*, 2024.
- 7 L. Marchezan, W. K. G. Assunção, E. Herac, and A. Egyed, "Model-based maintenance and evolution with genai: A look into the future," in *2030 Software Engineering*, 2024. eprint: 2407.07269. [URL: https://arxiv.org/abs/2407.07269](https://arxiv.org/abs/2407.07269)

- 8 L. Marchezan, M. Homolka, A. Blokhin, W. K. G. Assunção, E. Herac, and A. Egyed, "A tool for collaborative consistency checking during modeling," in *Proceedings of the ACM/IEEE 27th International Conference on Model Driven Engineering Languages and Systems*, ser. MODELS Companion '24, Linz, Austria: Association for Computing Machinery, 2024, 655–659. [DOI: 10.1145/3652620.3688558](#)
- 9 E. Herac, W. Assunção, L. Marchezan, R. Haas, and A. Egyed, "A flexible operation-based infrastructure for collaborative model-driven engineering," 2, *The 19th European Conference on Modelling Foundations and Applications (ECMFA 2023)*, vol. 22, Jul. 2023, 2:1–14. [DOI: 10.5381/jot.2023.22.2.a5](#)
- 10 L. Marchezan, W. K. G. Assunção, G. K. Michelon, and A. Egyed, "Do developers benefit from recommendations when repairing inconsistent design models? a controlled experiment," in *Proceedings of the 27th International Conference on Evaluation and Assessment in Software Engineering*, ser. EASE '23, Oulu, Finland: Association for Computing Machinery, 2023, 131–140. [DOI: 10.1145/3593434.3593482](#)
- 11 L. Marchezan, W. K. G. Assunção, E. Herac, F. Keplinger, A. Egyed, and C. Lauwerys, "Fulfilling industrial needs for consistency among engineering artifacts," in *2023 IEEE/ACM 45th International Conference on Software Engineering: Software Engineering in Practice (ICSE-SEIP)*, 2023, pp. 246–257. [DOI: 10.1109/ICSE-SEIP58684.2023.00028](#)
- 12 L. Marchezan, W. K. G. Assuncao, R. Kretschmer, and A. Egyed, "Change-oriented repair propagation," in *Proceedings of the International Conference on Software and System Processes and International Conference on Global Software Engineering*, ser. ICSSP'22, Pittsburgh, PA, USA: Association for Computing Machinery, 2022, 82–92, ISBN: 9781450396745. [DOI: 10.1145/3529320.3529330](#)
- 13 L. Marchezan, W. K. G. Assunção, G. Michelon, E. Herac, and A. Egyed, "Code smell analysis in cloned java variants: The apo-games case study," in *Proceedings of the 26th ACM International Systems and Software Product Line Conference - Volume A*, ser. SPLC '22, Graz, Austria: Association for Computing Machinery, 2022, 250–254, ISBN: 9781450394437. [DOI: 10.1145/3546932.3547015](#)
- 14 L. Marchezan, W. Assunção, J. Carbonell, E. Rodrigues, M. Bernardino, and F. Basso, "SPLReePlan - Automated Support for Software Product Line Reengineering Planning," in *15th Brazilian Symposium on Software Components, Architectures, and Reuse*, ser. SBCARS '21, Joinville, Brazil, 2021, 1–10, ISBN: 9781450384193. [DOI: 10.1145/3483899.3483902](#)
- 15 L. Marchezan, J. a. Carbonell, E. Rodrigues, M. Bernardino, F. P. Basso, and W. K. G. Assunção, "Enhancing the Feature Retrieval Process with Scoping and Tool Support: PAXSPL_v2," in *Proceedings of the 24th ACM International Systems and Software Product Line Conference - Volume B*, ser. SPLC '20, Montreal, QC, Canada: Association for Computing Machinery, 2020, 29–36, ISBN: 9781450375702. [DOI: 10.1145/3382026.3425767](#)
- 16 L. Marchezan, G. Bolfe, E. Rodrigues, M. Bernardino, and F. P. Basso, "Thoth: A web-based tool to support systematic reviews," in *2019 ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, 2019, pp. 1–6. [DOI: 10.1109/ESEM.2019.8870160](#)
- 17 L. Marchezan, E. Rodrigues, M. Bernardino, and F. P. Basso, "A customizable spl scoping process for spl reengineering," in *Anais da III Escola Regional de Engenharia de Software*, SBC, 2019, pp. 137–146.
- 18 J. Carbonelli, L. Marchezan, A. Neto, E. Rodrigues, M. Bernardino, and Y. Lima, "Analyzing the impact of the search phase in a systematic mapping study," in *Anais da II Escola Regional de Engenharia de Software*, SBC, 2018, pp. 33–40.
- 19 J. a. P. S. da Silva, M. Ecar, M. S. Pimenta, G. T. A. Guedes, L. P. Franz, and L. Marchezan, "A systematic literature review of uml-based domain-specific modeling languages for self-adaptive systems," in *Proceedings of the 13th International Conference on Software Engineering for Adaptive and Self-Managing Systems*, ser. SEAMS '18, Gothenburg, Sweden: Association for Computing Machinery, 2018, 87–93, ISBN: 9781450357159. [DOI: 10.1145/3194133.3194136](#)

- 20 L. Marchezan, E. Rodrigues, M. Bernardino, M. Laser, and F. Lima, “Towards a generic process for spl re-engineering,” in *Anais da I Escola Regional de Engenharia de Software*, SBC, 2017, pp. 1–8.

Books and Chapters

- 1 L. Marchezan, E. Rodrigues, J. Carbonell, M. Bernardino, F. P. Basso, and W. K. Assunção, “PAxSPL: A Framework for Aiding SPL Reengineering Planning,” in *Handbook of Re-Engineering Software Intensive Systems into Software Product Lines*, Springer, 2022, pp. 319–353.
- 2 E. M. Rodrigues, A. F. Zorzo, and L. Marchezan, “PLeTs: A Software Product Line for Testing Tools,” in *UML-Based Software Product Line Engineering with SMarty*, Springer, 2022, pp. 315–334.

Teaching

Johannes Kepler University

- 2025 343.301 Techniques of Presentation and Team Work (AI for Software Engineering) (3 credits)
343.350 Engineering of AI-intensive Systems (3 credits)
343.008 Model-driven Engineering (3 credits)
343.006 Seminar in Software Engineering (History and Evolution of Software Artifacts) (3 credits)
- 2024 343.006 Seminar in Software Engineering (AI Applied to Software Engineering) (3 credits)
343.001, 343.302, 343.004 Software Engineering (Exercises) (3 credits each)
343.301 Techniques of Presentation and Team Work (AI for Software Engineering) (3 credits)
343.350 Engineering of AI-intensive Systems (3 credits)
343.008 Model-driven Engineering (3 credits)
343.006 Seminar in Software Engineering (History and Evolution of Software Artifacts) (3 credits)
- 2023 343.006 Seminar in Software Engineering (AI-driven Software Systems) (3 credits)
343.001, 343.302 Software Engineering (Exercises) (3 credits each)
343.006 Seminar in Software Engineering (Software Modernization) (3 credits)
- 2022 343.309 Software Engineering (Exercises) (3 credits)
343.006 Seminar in Software Engineering (Software Modernization) (3 credits)
- 2021 343.309 Software Engineering (Exercises) (3 credits)
343.006 Seminar in Software Engineering (Recommendation Systems for Software Engineering) (3 credits)

Grants and Funding

- 2025 – 2029 Austrian Science Fund (FWF) - Project Title: Co-Existence of Modeling Language Versions and their Bounded Co-Evolution (COEE). PI: Alexander Egyed (JKU, Austria). Co-PIs: **Luciano Marchezan**, Wesley K. G. Assunção (NCSU). Funding: EUR 449,882.55.
- 2025 – 2028 Economic Affairs Department of the State of Upper Austria. Call: AI Region Upper Austria. Project Title: RefactorAI. PI: Oujidane Guiza (ProzFuture GmbH). Co-PIs: Paul Grünbacher (JKU, Austria), Alexander Egyed (JKU, Austria). Collaborators: Wesley K. G. Assunção (NCSU), **Luciano Marchezan**, Cosmina Ratiu (JKU, Austria). Industry Partners: Dynatrace and ITPRO Consulting & Software GmbH. Funding: EUR 928,250.00

Miscellaneous Experience

Organization

- 2025 – Software Engineering at Montreal – Meeting at UdeM
- 2024 – International workshop on collaborative and participatory modeling (MODELS co-located workshop)

Reviews for Journals

- 2025 – Empirical Software Engineering
ACM Transactions on Software Engineering and Methodology
Information and Software Technology
- 2024 – Software and Systems Modeling
Automated Software Engineering
- 2023 – Journal of Systems and Software
- 2022 – Journal of Software: Evolution and Process

Reviews for Conferences and Workshops

- 2025 – International Conference on Software Analysis, Evolution and Reengineering (SANER) – Research track
International Systems and Software Product Line Conference (SPLC) – Main Track
International Conference on Evaluation and Assessment in Software Engineering (EASE) – Short papers and Emerging Results Track
International Conference on Model Driven Engineering Languages and Systems (MODELS) – Tools and Demonstrations Track
International Conference on Software Testing, Verification and Validation (ICST) – Posters Track
- 2024 – First International Workshop on Model Management (MODELS co-located workshop)
- 2023 – Re:Volution (SPLC co-located workshop)

Awards and Achievements

- 2025 **JKU Young Researchers' Award** for the thesis “Improving Consistency Maintenance for Collaborative Software Systems Engineering”
- 2024 **Distinguished Paper Award**, SANER 2024. For the paper “Exploring dependencies among inconsistencies to enhance the consistency maintenance of models”
- 2022 **SoSym-First Paper Award**, MODELS 2022. For the paper “Generating repairs for inconsistent models”
Best Paper Award, ICSSP/ICGSE 2022. For the paper “Change-oriented repair propagation”
- 2021 **Best Master Thesis**, Software Engineering Doctoral and Master Theses Competition - Brazil.
- 2019 **Student with the most outstanding performance in the Software Engineering Masters Course**, Universidade Federal do Pampa.
- 2018 **Student with the most outstanding performance in the Software Engineering Undergraduate Course**, Universidade Federal do Pampa.
- 2016 **Student with the most outstanding performance in the Software Engineering Undergraduate Course**, Universidade Federal do Pampa.
- 2014 **Dean's List Certificate**, Illinois Institute of Technology School of Applied Technology.