Edson OliveiraJr

Nationality: Brazilian
Apr 16th 1978
Titles: **Ph.D.**, **Master's**, and **Bachelor** in *Computer Science*
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Summary Statement

I am an Associate Professor at the State University of Maringá, Brazil. I hold a Ph.D. in Computer Science from the University of São Paulo (USP), Brazil. I was a visitor scholar at the University of Waterloo, Canada in 2009. My **Software Engineering** research interests include: Software Product Lines, Software Process Lines, Variability Management, Software Architecture and Evaluation, Metrics, Model-driven Engineering, UML and Metamodeling, and Evidence-based Software Engineering. In addition, I research on **Digital Forensics** experimentation and **Open Science** as a FAIR path to research openness and reproducibility.

Employment History

2019-now	**State University of Maringá**, Maringá-PR, Brazil. *Associate Professor of Software Engineering.*
2011–2019	**State University of Maringá**, Maringá-PR, Brazil. *Assistant Professor of Software Engineering.*
2003-2005	**Caixa Econômica Federal - Brazilian National Public Bank**, Maringá-PR, Brazil. *Software Analyst.*
2001-2011	**Independent Java Consultant and Instructor**, Maringá-PR, Brazil.

Visiting Researcher/Sabbatical

sep/18-mar/20 — **Experimentation of Digital Forensics**
Pontiphical Catholic University of Rio Grande do Sul · Porto Alegre-RS, Brazil
Digital Forensics, Empirical Studies, Conceptual Models, Reproducibility, Open Science

aug/22-feb/23 — **Digital Forensics Education**
Pontiphical Catholic University of Rio Grande do Sul · Porto Alegre-RS, Brazil
Digital Forensics, Education, Empirical Studies, Research Agenda, Course Curricula, Course Deployment, Course Evaluation, Syllabus, Open Science

Visiting Scholar Experience

feb-dec/2009 — **UML-based Software Product Lines**
STAR Lab. at the University of Waterloo · Waterloo, Ontario, Canada
SPL, variability, controlled experiments, metrics, architecture evaluation

Education

2006–2010	**Ph.D. in Computer Science** University of São Paulo · São Carlos-SP, Brazil Software Product Line Architecture Evaluation, Metrics, Metamodels, Empirical Software Engineering
2003–2005	**Master's in Computer Science** State University of Maringá · Maringá-PR, Brazil Software Reuse, Software Product Lines, Empirical Software Engineering
1998–2002	**Bachelor in Informatics** State University of Maringá · Maringá-PR, Brazil Emphasis in Software Engineering

Supervisions

- **Bachelor's Degree:** current 05, concluded 31
- **Scientific Initiation Projects:** current 01, concluded 20
- **MBA or Specialization Course:** current 03, concluded 36
- **Master's Degree:** current 04, concluded 21
- **Ph.D.:** current 05, concluded 00

Professional Certifications

2010	**Sun Certified Enterprise Architect (SCEA)**, *Sun Microsystems.*
2006	**Sun Certified Business Component Developer (SCWCD)**, *Sun Microsystems.*
2005	**Sun Certified Web Component Developer (SCWCD)**, *Sun Microsystems.*
2005	**Sun Certified Java Associate (SCJA)**, *Sun Microsystems.*
2004	**Sun Certified Java Programmer (SCJP)**, *Sun Microsystems.*
2004	**Sun Certified Java Developer (SCJD)**, *Sun Microsystems.*

Research Interests

- **Software Product Lines -** UML-based SPLs, variability, architecture evaluation, and tools
- **Software Process Lines -** process tailoring, variability, and tools
- **Software Architecture and Evaluation**
- **Model-driven Engineering**
- **UML, SysML, and Metamodeling**
- **Evidence-based Software Engineering -** experiments, secondary studies, surveys, mixed methods, and quali/quanti analysis
- **Education in Software Engineering**
- **Improvement of Software Engineering Experimentation -** repositories, ontology, recommender systems, metamodels, guidelines, and conceptual models
- **Digital Forensics -** Experimentation, Requirements, Ontology, Conc. Models, and Tools for Digital Forensics
- **Open Science for Software Engineering and Digital Forensics**

Soft Skills

- **Collaboration:** group work for better results, discuss ideas, stay have empathy and be open to exchange knowledge and experience
- **Resilience:** adaptation in face of adversity, face the most difficult situations without breaking down
- **Communication:** listen carefully and communicate clearly
- **Flexibility:** adapt to changes over new methods, projects and technologies
- **Work under Pressure:** manage stress without losing focus
- **Results Orientation:** achieve results in the most effective way possible
- **Team Leadership:** motivate and engage groups, especially diversity ones
- **Assertiveness:** make decisions in an effective and fast pace
- **Proactiveness:** evaluate scenarios and find ways to resolve issues that impede results or disrupt productivity

Service

Journals

- Associate Editor	IET Software
- Edit. Board Member	J. of Universal Computer Science
- Reviewer	IEEE Trans. on Soft. Eng.
- Reviewer	Comp. Science Review
- Reviewer	IET Software
- Reviewer	J. Universal Computer Science
- Reviewer	ACM Computing Surveys
- Reviewer	J. of Systems and Software
- Reviewer	Inf. Soft. Technology
- Reviewer	Emp. Soft. Engineering
- Reviewer	J. Soft. Eng. Research and Development
- Reviewer	Forensic Science International - Digital Investigation

Conference Chair

- Open Science Chair	Ibero-American Conference on Software Engineering (CIbSE 2023)
- Open Science Chair	Brazilian Conference on Software (CBSoft 2023, 2002)
- General Chair	Workshop on Open Science Practices for Software Engineering (OpenScienSE 2022, 2021)
- General Chair	Regional School of Software Engineering (ERES 2021, 2020)
- General Chair	Brazilian Conference on Software (2016)

International Conferences

- Artifact Evaluator	ICSE (2024)
- TPC Member	OpenScienSE (2023)
- TPC Member	OpenSym (2022)
- TPC Member	ACM SPLC (2023, 2022, 2021, 2020)
- TPC Member	PROFES (2023, 2022, 2021, 2020, 2019, 2018)
- TPC Member	VaMoS (2023, 2022, 2021, 2020, 2019, 2018)
- TPC Member	IEEE IRI (2020, 2019, 2018)
- TPC Member	ICEIS (2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014)
- TPC Member	SEKE (2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012)
- TPC Member	FIE (2020, 2019, 2018, 2017, 2016, 2015)
- TPC Member	SLISW (2018, 2017, 2016, 2015, 2014, 2013)

Brazilian Conferences

- TPC Member	SBSI (2023, 2022, 2021, 2020, 2019)
- TPC Member	SBES - Education Track (2023, 2022, 2021, 2020, 2019, 2018, 2017)
- TPC Member	SBES - Research Track (2023, 2022, 2021, 2020, 2019, 2018, 2017,2016)
- TPC Member	SBES - Innovative Ideas Track (2023, 2022, 2021, 2020)
- TPC Member	SBCARS (2023, 2021, 2020, 2019, 2018, 2017, 2016, 2015)
- TPC Member	SBQS - Research Track (2023, 2022, 2021, 2020, 2019, 2018, 2017,2016, 2015)
- TPC Member	SBQS - Education and Industry Experience Track (2023, 2022, 2021, 2020, 2019)

Last Journal Publications

2022 FalvoJr, V; Marcolino, A. S.; Duarte Filho, Nemésio; OliveiraJr, E.; Barbosa, E. F. **Development and Evaluation of a Software Product Line for M-Learning Applications**. *Journal of Universal Computer Science*. DOI: `http://dx.doi.org/10.3897/jucs.90663`

2022 Garcia, L.A.; OliveiraJr, E.; Morandini, M.; Urbanowski, S. **Tailoring the Scrum Framework for Software Development: Literature Mapping and Feature-based Support**. *Information and Software Technology - Elsevier*. DOI: `https://doi.org/10.1016/j.infsof.2021.106814`

2022 OliveiraJr, E.; Silva, T.J.; Zorzo, A.F.; Neu, C.V. **Digital Forensics Experimentation: Analysis and Recommendations**. *Forensic Science Review*, v. 34, p. 21-41.

2021 Morandini, M.; Coleti, T.A.; OliveiraJr, E.; Corrêa, P.L.P. **Considerations about the efficiency and sufficiency of the utilization of the Scrum methodology: A survey for analyzing results for development teams**. *Computer Science Review*, v. 39, p. 100314. DOI: `http://dx.doi.org/10.1016/j.cosrev.2020.100314`

2021 OliveiraJr, E.; Zorzo, A.; Neu. C.V. **Experimentation of digital multimedia forensics: State of the art and research gaps**. *WIREs Forensic Science*, p. e1406. DOI: `http://dx.doi.org/10.1002/wfs2.1405`

2020 Allian, A. P.; OliveiraJr, E.; Capilla, R.; Nakagawa, E. Y. **Have Variability Tools Fulfilled the Needs of Software Industry?**. *Journal of Universal Computer Science*, v. 26, p. 1282—1311. DOI: `https://doi.org/10.3897/jucs.2020.067`

2020 Petry, K.L.; OliveiraJr, E.; Zorzo, A. **Model-based testing of software product lines: Mapping study and research roadmap**. *Journal of Systems and Software*, v. 167, p. 110608. DOI: `http://dx.doi.org/10.1016/j.jss.2020.110608`

2020 OliveiraJr, E.; Zorzo, A.; Neu, C.V. **Towards a conceptual model for promoting digital forensics experiments**. *Forensic Science International: Digital Investigation*, v. 35, p. 301014. DOI: `http://dx.doi.org/10.1016/j.fsidi.2020.301014`

2019 Nogueira Teixeira, E.; Aleixo, F..; Amâncio, F.D.S.; OliveiraJr, E.; Kulesza, U.; Werner, C. **Software process line as an approach to support software process reuse: A systematic literature review**. *Information and Software Technology*, v. 116, p. 106175. DOI: `http://dx.doi.org/10.1016/j.infsof.2019.08.007`

2018 Pazin, M.G.; Allian, A.P.; OliveiraJr, E. **Empirical study on software process variability modelling with SMartySPEM and vSPEM**. *IET Software*, v. 12, p. 536-546, 2018. DOI: `http://dx.doi.org/10.1049/iet-sen.2017.0061`

Last Proceedings Publications

2023 Bettin, G.; Herculani, J. B.; Melo, A.; Andrade, L. C.; OliveiraJr, E. **Efficacy, Efficiency and Effectiveness of SMarty-based Software Product Line Inspection Techniques: a Controlled Quasi-Experiment**. In: *Proceedings of the 17th International Working Conference on Variability Modelling of Software-Intensive Systems*, (**to appear**).

2022 FELIZARDO, K. R.; CHAVEZ, C. V. F. G.; PEREIRA, ROBERTO; OLIVEIRAJR, EDSON. **Surveying the Audience Effect in Open Peer Review of a Software Engineering Workshop**. In: *Proceedings of the Brazilian Symposium on Software Engineering*. DOI: `https://doi.org/10.1145/3555228.3555271`.

2022 OliveiraJr, Edson; CORDEIRO, A. F. R.; NASCIMENTO, D. **Surveying the Open Science knowledge in a southern Brazilian university**. In: *Proceedings of the International Symposium on Open Collaboration*. DOI: `https://doi.org/10.1145/3555051.3555064`.

2022 LUZ, C. D.; OliveiraJr, E.; STEINMACHER, I. **How Experimentation in Software Engineering has been taught? Survey and Research Agenda**. In: *Proceedings of the International Conference on Evaluation and Assessment in Software Engineering*, p. 299–304. DOI: `http://dx.doi.org/10.1145/3530019.3535306`.

2022 CORDEIRO, A. F. R.; OliveiraJr, EDSON; CAPRETZ, L. F. **Towards an Open Science-Based Framework for Software Engineering Controlled (Quasi-)Experiments**. In: *Proceedings of the XVI Brazilian e-Science Workshop*. DOI: `http://dx.doi.org/10.5753/bresci.2022.222815`.

2022 SILVA, T. J.; OliveiraJr, E. **An Ontology for Supporting Digital Forensics Controlled Experiments: Early Stages of Development**. In: *Proceedings of the XVI Brazilian e-Science Workshop*. DOI: `http://dx.doi.org/10.5753/bresci.2022.222813`.

2021 OliveiraJr, E.; Chavez, C. v. F. G.; Cordeiro, A.; Feitosa, D. **How do Brazilian Software Engineering Researchers Perceive and Practice Open Science?**. In: *Proceedings of the I Workshop on Open Science Practices for Software Engineering*, p. 28–33 DOI: `http://dx.doi.org/10.5753/opensciense.2021.17142`

2021 Cordeiro, A. F. R. ; OliveiraJr, E. **Open Science Practices for Software Engineering Controlled Experiments and Quasi-Experiments**. In: *Proceedings of the I Workshop on Open Science Practices for Software Engineering*, p. 19–21 DOI: `http://dx.doi.org/10.5753/opensciense.2021.17140`

2021 Furtado, V.; OliveiraJr, E.; Kalinowski, M. **Guidelines for Promoting Software Product Line Experiments**. In: *Proceedings of the Brazilian Symposium on Software Components, Architectures, and Reuse*, ACM, p. 31–40 DOI: `http://dx.doi.org/10.1145/3483899.3483909`

2021 Freire, W. et al. **On the configuration of multi-objective evolutionary algorithms for PLA design optimization**. In: *Proceedings of the Brazilian Symposium on Software Components, Architectures, and Reuse*, ACM, p. 11–20 DOI: `http://dx.doi.org/10.1145/3483899.3483905`

2021 Silva, L.F.; OliveiraJr, E. **SMartyModeling: an instance of VMTools-RA for Engineering UML-based Software Product Lines**. In: *Proceedings of the Brazilian Symposium on Software Quality*, ACM, p. 1–10 DOI: `https://doi.org/10.1145/3493244.3493274`

2021 OliveiraJr, E.; Furtado, V.; Vignando, H.; Luz, C.; Cordeiro, A.; Steinmacher, I.; Zorzo, A. **Towards Improving Experimentation in Software Engineering**. In: *Proceedings of the Brazilian Symposium on Software Engineering*, ACM, p. 355–340 DOI: `http://dx.doi.org/10.1145/3474624.3477073`

Last Proceedings Publications

2021 Bettin, G.; OliveiraJr, E. **SMartyPerspective: a perspective-based inspection technique for software product lines**. In: *Proceedings of the Brazilian Symposium on Software Engineering*, ACM, p. 90–94 DOI: `http://dx.doi.org/10.1145/3474624.3474626`

2021 Silva, L.F.; OliveiraJr, E. **SMartyModeling: an Environment for Engineering UML-based Software Product Lines**. In: *Proceedings of the International Working Conference on Variability Modelling of Software-Intensive Systems*, ACM, p. 1–5. DOI: `https://doi.org/10.1145/3442391.3442397`

2021 Choma Neto, J.; OliveiraJr, E.; Souza, S.R.S.; Bento, L.H.T.C. **Are we teaching UML according to what IT companies need? A survey on the São Carlos-SP region**. In: *Proceedings of the Brazilian Symposium on Computer Education*, p. 1–10. DOI: `https://doi.org/10.5753/educomp.2021.14469`

2021 Nepomuceno, T.S.; OliveiraJr, E. **Software Product Line Traceability and Product Configuration in Class and Sequence Diagrams: an Empirical Study**. In: *International Conference on Enterprise Information Systems*, p. 197–204 DOI: `https://doi.org/10.5220/0010411001970204`

2021 Petry, K.L.; OliveiraJr, E.; Costa, L.T.; Zanin, A.; Zorzo, A.F. **SMartyTesting: a Model-Based Testing Approach for Deriving Software Product Line Test Sequences**. In: *International Conference on Enterprise Information Systems*, p. 165–172. DOI: `https://doi.org/10.5220/0010373601650172`

2020 Garcia, L.; OliveiraJr, E.; Leal, G.C.L.; Morandini, M.; Urbanowski, S. **Adaptations of Scrum roles in software projects: Survey and representation tentative with feature models**. In: *Proceedings of the Brazilian Symposium on Software Engineering*, ACM, p. 47–51. DOI: `https://doi.org/10.1145/3422392.3422403`

2020 OliveiraJr, E.; Leal, G.C.L.; Valente, M.T.; Morandini, M.; Prikladnicki, R.; Pompermaier, L.; Chanin, R.; Caldeira, C.; Machado, L.; Souza, C. **Surveying the impacts of COVID-19 on the perceived productivity of Brazilian software developers**. In: *Proceedings of the Brazilian Symposium on Software Engineering*, ACM, p. 586–595. DOI: `https://doi.org/10.1145/3422392.3422444`

2020 Nepomuceno, T.S.; OliveiraJr, E.; Penteado, R.R.M.; Silva, M.A.G.; Zorzo, A. **Empirical Study on Product Configuration and Traceability in UML-based Product-Lines**. In: *Proceedings of the Ibero-American Conference on Software Engineering*, p. 1–14.

2020 Silva, L.F.; OliveiraJr, E. **Evaluating usefulness, ease of use and usability of an UML-based Software Product Line Tool**. In: *Proceedings of the Brazilian Symposium on Software Engineering*, p. 798–807. DOI: `https://doi.org/10.1145/3422392.3422402`

2020 Silva, L.F.; OliveiraJr, E.; Zorzo, A.F. **Feasibility Analysis of SMartyModeling for Modeling UML-based Software Product Lines**. In: *Proceedings of the International Conference on Enterprise Information Systems*, ScitePress, p. 442–449. DOI: `http://dx.doi.org/10.5220/0009793404420449`

Last Proceedings Publications

2020 Garcia, L.; OliveiraJr, E.; Leal, G.C.L.; Morandini, M. **On the Adaptations of the Scrum Framework Software Development Events: Literature and Practitioners Analysis using Feature Models**. In: *Proceedings of the International Conference on Enterprise Information Systems*, ScitePress, p. 416–423. DOI: `http://dx.doi.org/10.5220/0009578904160423`

2020 Vignando, H.; Furtado, V.R.; Teixeira, L.; OliveiraJr, E. **OntoExper-SPL: An Ontology for Software Product Line Experiments**. In: *Proceedings of the International Conference on Enterprise Information Systems*, ScitePress, p. 401–408. DOI: `http://dx.doi.org/10.5220/0009575404010408`

2020 Nepomuceno, T.S.; OliveiraJr, E.; Geraldi, R.T.; Malucelli, A.; Reinehr, S.; Silva, M.A.G. **Software Product Line Configuration and Traceability: An Empirical Study on SMarty Class and Component Diagrams**. In: *Proceedings of the Annual Computers, Software, and Applications Conference*, IEEE, p. 979–984. DOI: `https://doi.org/10.1109/COMPSAC48688.2020.0-144`

Journal Articles to Appear

Poltronieri, I.; Zorzo, A. F.; Bernardino, M.; Pedroso, A.; OliveiraJr, E. **Usa-DSL: a Process for Usability Evaluation of Domain-Specific Languages**. *Journal of Universal Computer Science* - `https://www.scopus.com/sourceid/145537#tabs=1`

Submitted Journal Articles

Geraldi, R. T.; Reinehr, S.; OliveiraJr, E.; Malucelli, A. **Towards a proactive variability modeling process for cyber-physical systems supported by modern product line engineering**. *Software and Systems Modeling*

Menolli, A.; Clementino Junior, J. M.; OliveiraJr, E. **Why should companies use MDE-based development to improve organizational learning? A survey on Brazilian software development companies and a roadmap**. *Information and Software Technology*

Silva, T. J.; OliveiraJr, E.; Zorzo, A. F. **A Systematic Literature Review and Recommendations for Ontology-based Support of Digital Forensics**. *Forensic Science International - Digital Investigation*

Allian, A. P.; Silva, L. F.; OliveiraJr, E.; Nakagawa, E. Y. **VMTools-RA: a Reference Architecture for Software Variability Tools**. *Journal of Universal Computer Science*

Silva, L. F.; Moreira, E. I.; OliveiraJr, E.; Tenorio, N. **How Software Reference Architectures have been Evaluated? A Systematic Literature Review**. *Information and Software Technology*

Cordeiro, A. F.; OliveiraJr, E. **Open Science Practices for Software Engineering: a Review**. *Empirical Software Engineering*

Diversity Statement

I strongly recognize the rights of all individuals to mutual respect and acceptance of others without prejudice based on differences of any kind. I am a professional driven by the ability to lead and seek diversity in all institutions and to lead society to pluralism. I fully understand that being a professor, scientist or researcher does not mean just being successful in research. At the same time, one should be excellent in interactions with the community and the students, to lead the academic society, and in responsibilities to transform the community. I have been engaged in attract especially female and diverse students' attention to computer science, guiding and encouraging them from my undergraduate school, to apply to graduate school. At the State University of Maringá, I mentored xxx female students. I train them on building and characterizing on for studying and researching.

Professional References

Igor Steinmacher, Ph.D.: Northern Arizona University (NAU), USA.

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- ORCID: `https://orcid.org/0000-0002-0612-5790`
- DBLP: `https://dblp.org/pid/70/3474.html`

José C. Maldonado, Ph.D.: University of São Paulo (USP), Brazil.

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- ORCID: `https://orcid.org/0000-0002-3779-7143`
- DBLP: `https://dblp.org/pid/28/2292.html`

Avelino F. Zorzo, Ph.D.: Pontifical Catholic University of Rio Grande do Sul (PUCRS), Brazil.

- E-mail: `avelino.zorzo@pucrs.br`
- ORCID: `https://orcid.org/0000-0002-0790-6759`
- DBLP: `https://dblp.org/pid/z/AvelinoFZorzo.html`

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- E-mail: `tayana@icomp.ufam.edu.br`
- ORCID: `https://orcid.org/0000-0001-6436-3773`
- DBLP: `https://dblp.org/pid/48/5.html`

Andreia Malucelli, Ph.D.: Pontifical Catholic University of Paraná (PUC-PR), Brazil.

- E-mail: `andreia.malucelli@pucpr.br`
- ORCID: `https://orcid.org/0000-0002-0929-1874`
- DBLP: `https://dblp.org/pid/82/191.html`

Book

Feb/2023 OliveiraJr, E. (editor) **UML-based Software Product Line Engineering with SMarty**. *Springer*. ISBN: 978-3-031-18555-7. URL: `https://link.springer.com/book/10.1007/978-3-031-18556-4`