

Valentina Lenarduzzi, Ph.D.

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**BIOGRAPHY**

I am researcher at the Tampere University (Finland). My research activities are related to data analysis in software engineering, software quality, software maintenance and evolution, focusing on Technical Debt, Code and Architectural smells. I was research assistant at the Free University of Bozen-Bolzano, (Italy) and visiting researcher at the Technical University of Kaiserslautern and Fraunhofer Institute for Experimental Software Engineering IESE (Germany). I obtained my Ph.D. in Computer Science in 2015 working on effort estimation and data analysis in software engineering.

PROFESSIONAL EXPERIENCE

Researcher – Tampere University (formerly Tampere University of Technology) (Tampere – FINLAND)

Feb. 2018– now

I am currently working on software maintenance and evolution with a special focus on Technical Debt.

My research goals are two-folded: first I aim at understand which component of the technical debt is actually harmful. Second, I am investigating when and how different technical choices, such as selecting different components, can impact technical debt.

Moreover, I am collaborating with different research groups investigating how to migrate to microservices and identifying the refactoring activities that should be adopted when migrating from monolithic to microservices.

Research Assistant – Free University of Bozen/Bolzano (Bolzano/Bozen – ITALY)

Mar. 2015 – Apr. 2017

I worked on two domains: agile software development for startup and SMEs and software quality models for SMEs. On the Agile and Lean side, I worked on a set of empirical studies in collaboration, so as to identify the processes adopted to define the minimum viable product and how companies adopt agile practices and, on a project, to support new product development processes for business changing companies. On the software quality side, I worked on a project to support local SMEs and micro-enterprises who use agile methods, with the goal of tailoring their development processes to reduce project failures due to long-term maintainability issues. Both projects are carried out in collaboration with the local Business Consortium (IDM Sudtirol), where I coordinated the empirical studies among the companies.

I was also involved in several works with international partners, thanks to the network of software factories. I collaborated with the University of Oulu, Fraunhofer IESE, university of Cagliari, University of Tampere on four different work on the analysis of agile processes, effort estimation in agile processes and functional size measurement.

I also worked in the Project STIMULI (STimulating And oRganizing the deveLopment of crEative iDeas project) in order to support the new product development for business changing companies, in cooperation with Start-up firms in the South Tyrol Business Consortium (IDM Südtirol). I developed a platform to support the requirements collection and traceability and I conducted a controlled experiment so as to evaluate the project results.

Visiting Researcher – University of Kaiserslautern / Fraunhofer Institute for Experimental Software Engineering IESE (Kaiserslautern - GERMANY)

May. 2014 – Jan. 2015

I was also visiting researcher at University of Kaiserslautern, Germany (AGSE group – supervisor prof. Dieter Rombach) and Fraunhofer IESE of Kaiserslautern, Germany, (“Software Process Modeling” group), where I worked for 9 months on Empirical Software Engineering in Embedded Software and Agile projects focusing on Avionic domain in collaboration with Liebherr Aerospace (Lindenberg im Allgau – Germany) in order to define a classification schema for development technology and co-ordination of the development of the platform developed and an effort prediction model based on functional measures, so as to support the development effort in agile processes.

Project Manager - OpenSoftEngineering (Varese – ITALY)

June 2011 – Dec. 2015

Here I led up to 12 team members through the complete lifecycle of a variety of ERP and CRM projects from requirements elicitation and project planning through day-to-day project management, deployment, and ongoing support.

I worked for more than 4 years in technology transfer as co-founder of the OpenSoftEngineering Spin-Off of the University of Insubria (Varese-Como). OpenSoftEngineering enable me to know the real needs of different companies and how to support them in using research results from the University, starting from transferring the results of the QQualiPSO projects to companies interested in adopting Open Source Projects and then to support the whole research group of Software Engineering in applying their research results to local companies.

My principal activities were the analysis, modelling and optimization of maintenance building processes. I also supported the development of an ERP for the planning and management of the maintenance activities for the University Buildings area.

Ph.D. Student - University of Insubria (Varese – ITALY)

Jan 2011– Jan. 2015

Ph.D. Advisor: prof. Sandro Morasca.

During my Ph.D. I worked on analysis of data on development process in more than 5000 projects, in order to define reliable effort prediction models. The models are applied successfully in different projects developed with different development processes.

Research Assistant – University of Bolzano/Bozen (Bolzano/Bozen – ITALY)

Sept 2011– Dec 2011

Business model analysis of several OSS companies and comparison analysis with Close Source models.

Research Assistant – University of Bolzano/Bozen (Bolzano/Bozen – ITALY)

May 2010 – Sept 2010

Open Maturity model (OMM) application to different Open Source products and model validation.

Research and Development manager – Ecoconsulting s.r.l.(Monza, ITALY)

June 2009 – March 2010

Business process development and research management.

TEACHING EXPERIENCE

2019/2020 Lecture

- Introduction to Software Engineering - Tampere University (Finland)
- Project Work on Pervasive Systems - Tampere University (Finland)

2019/2020 Teaching Assistant

- Software Engineering Methodologies - Tampere University (Finland)

2018/2019 Lecture

- Master's Seminar - Tampere University of Technology (Finland)
- Demola Project Work - Tampere University of Technology (Finland)
- Project Work on Pervasive Systems - Tampere University of Technology (Finland)

2017/2018 Teaching Assistant

- Computer Science - Free University of Bolzano/Bozen (Italy). Bachelor in Industrial and Mechanical Engineering.

2016/2017 Teaching Assistant

- Computer Science - Free University of Bolzano/Bozen (Italy). Bachelor in Agricultural and Agro-Environmental Sciences,
- Innovation and Entrepreneurship in ICT - University of Trento. European Master I&E Studies.

2012/13 Teaching Assistant

- Multimedia communication techniques - University of Insubria (Italy). Bachelor in Interlinguistic and intercultural mediation sciences;
- Computer Science - University of Insubria (Italy). Bachelor in Tourism Sciences;
- Computer Science for Public Administration - University of Insubria (Italy). Bachelor in Law;
- Operative system laboratory - University of Insubria (Italy). Bachelor in Computer Science.

2011/12 Teaching Assistant

- Multimedia communication techniques - University of Insubria (Italy). Bachelor in Interlinguistic and intercultural mediation sciences;

- Computer Science - University of Insubria (Italy). Bachelor in Tourism Sciences;
- Computer Science for Public Administration - University of Insubria (Italy). Bachelor in Law;

PROFESSIONAL SERVICES

Board Member

- Td-survey initiative - Finland replication team leader

Teaching mentor international students

- Bachelor and Master International Students - Tampere University of Technology (Finland), 2018

Organizing committee

- Local Organizing chair - 24th Evaluation and Assessment in Software Engineering (EASE 2020) Tampere (Finland)
- Short papers co-chair - 24th Evaluation and Assessment in Software Engineering (EASE 2020) Tampere (Finland)
- Publicity chair - 23th Evaluation and Assessment in Software Engineering (EASE 2019) Copenhagen (Denmark)
- Proceeding chair - 15th International Conference on Open Source Systems (OSS 2019) Montreal (Canada) 25-26 May 2019
- Co-organizer of the First International Workshop on Microservices for Agile Software Development - XP2017 May 26th, 2017
- Co-organizer of “Italian Conference of Open Source Software” ed. 2013
- Co-organizer of “First Summer School on Open Source Software” (Como 2012)

Invited speaker

- FOSDEM 2013 - Workshop on Open Source Marketing

Reviewer for International Conferences and Journals

- E-informatica Software Engineering Journal from 2017
- Empirical software Engineering journal from 2018
- Journal of Systems and software from 2018
- Evaluation and Assessment in Software Engineering (EASE) 2018, 2019
- Euromicro Conference on Software Engineering and Advanced Applications (SEAA) - Software Engineering and Technical Debt track 2019
- International Conference on Agile Software Development (XP) 2018
- International Conference on Open Source Systems (OSS) 2018, 2019
- International Conference on Software Engineering Advances (ICSEA) 2016, 2017, 2018, 2019
- International Workshop on Cloud-Native Applications Design and Experience (CNAX) 2018
- International Workshop on Microservices: Agile and DevOps Experience (MADE) 2018
- MICROSERVICES-BOOK 2019
- Euromicro Conference on Software Engineering and Advanced Applications (SEAA) 2019

LANGUAGE COMPETENCE

- Italian (Native)
- English (B2)
- German (A2)

TEACHING QUALIFICATION

- 2003 Bachelor in Environmental Science - University of Insubria;
- 2005 Master in Environmental Science - University of Insubria;
- 2008 Master in Civil and Environmental Engineering - Politecnico of Milano;
- 2015 Ph.D. in Computer Science - University of Insubria.

SCIENTIFIC PUBLICATIONS

JOURNALS

1. N. Sbai, V. Lenarduzzi, D. Taibi, S. Ben Sassi and H.H. Ben Ghezala. " Using information from OSS repositories and platforms to support OSS selection decisions". Information and Software Technology Journal (IST), 2018. Volume 104, pp. 104-108.
2. D. Taibi. V. Lenarduzzi. "An Empirically Defined Set of Bad Architectural Smells for Microservices" IEEE Software, Vol 35, Issue 3, May/June, 2018.
3. D. Taibi, V. Lenarduzzi and C. Pahl. "Processes, Motivations and Issues for Migrating to Microservices Architectures: An Empirical Investigation". IEEE Cloud Computing, vol. 4, Issue 5, pp. 22-32, 2017
4. D. Taibi, A. Janes and V. Lenarduzzi. "How Developers Perceive smells in Source Code: A Replicated Study ". Information and Software Technology (IST), Vol. 92, pp. 223-235. December 2017. The paper was selected for the ESEM "Journal First" track in 2018.
5. Dieudonné L., Lenarduzzi V., Plociennik C. and Taibi D. "Towards a Classification Schema for Development Technologies: An Empirical Study in the Avionic Domain". International Journal on Advances in Software, Vol 8 n 1&2 2015.

INTERNATIONAL CONFERENCES

1. Friso C., Lenarduzzi V., Taibi D. and Tosi D. "How Open Source Software Products Can Support Teaching in Italian Schools". 5th European Conference on Information Management and Evaluation, ECIME, 2011
2. Lenarduzzi V. and Morasca S. "Towards a Marketing Strategy for Open Source Software"12th International Conference (PROFES 2011), Torre Canne, Italy, June 20-22, 2011.
3. Del Bianco V., Lavazza L., Lenarduzzi V., Morasca S., Taibi D. and Tosi D. "A study on OSS Marketing and Communication Strategies" OSS 2012, pp 338-343, 2012.
4. Lenarduzzi V. and Taibi D. "Can Functional Size Measures Improve Effort Estimation in SCRUM?". Ninth International Conference on Software Engineering Advances (ICSEA 2014), Nice (France) October 14-16, 2014, pp 173-178, ISBN: 978-1-61208-367-4.

5. Lenarduzzi V., Morasca S. and Taibi D. "Estimating Software Development Effort Based on Phases". 40th Euromicro Conference on Software Engineering and Advanced Applications (EUROMICRO2014), Verona (Italy) August 27-29, 2014, pp 305-308, DOI 10.1109/SEAA.2014.54.
6. Lenarduzzi V., Lunesu I., Matta M. and Taibi D. "Functional Size Measures and Effort Estimation in Agile Development: A Replicated Study". Agile Processes, in Software Engineering, and Extreme Programming (XP2015), Helsinki (Finland), May 25-29, 2015, pp 105-116, DOI 10.1007/978-3-319-18612-2_9.
7. Lenarduzzi V. "Could social factors influence the effort software estimation?" 7th International Workshop on Social Software Engineering (SSE 2015), Bergamo (Italy), September 1, 2015, pp 21-24, ISBN: 978-1-4503-3818-9 doi:10.1145/2804381.2804385.
8. Taibi D., Lenarduzzi V., Ovais Ahmad M, Liukkunen K., Lunesu I., Matta M., Fagerholm F., Münch J., Pietinen S., Tukiainen M., Fernández-Sánchez C., Garbajosa J. and Systä K. "Free Innovation Environments: Lessons learned from the Software Factory Initiatives". Tenth International Conference on Software Engineering Advances (ICSEA 2015) Barcelona (Spain), November 15-20, 2015, ISBN: 978-1-61208-438-1.
9. Taibi D., Janes A. and Lenarduzzi V. "Towards a Lean Approach to Reduce Code Smells Injection: An Empirical Study". Agile Processes, in Software Engineering, and Extreme Programming (XP2016), Edinburgh (United Kingdom), 2016 May 24-27, pp 300-304, doi: 10.1007/978-3-319-33515-5_30.
10. D. Taibi and V. Lenarduzzi. "MVP explained: A Systematic Mapping on the Definition of Minimum Viable Product". 42th Euromicro Conference on Software Engineering and Advanced Applications (SEAA2016), Larnaca (Cyprus), Aug 31 – Sept 03, 2016, pp. 112-119, doi: 10.1109/SEAA.2016.56.
11. L. Lavazza, V. Lenarduzzi and D. Taibi "Towards Component-Aware Function Point Measurement". International Conference on Software Process and Product Measurement (IWSM Mensura 2016), Berlin (Germany), 04-07 October 2016, pp. 35-44, DOI: 10.1109/IWSM-Mensura.2016.017.
12. D. Taibi, V. Lenarduzzi, A. Janes, K. Liukkunen and M.O. Ahmad. "Comparing Requirements Decomposition within the Scrum, Scrum with Kanban, XP, and Banana Development Processes". Agile Processes, in Software Engineering, and Extreme Programming (XP2017), Cologne (Germany), May 22-26, 2017, pp 68-83, DOI: 10.1007/978-3-319-57633-6_5.
13. A. Janes, V. Lenarduzzi, and A.C. Stan. "A Continuous Software Quality Monitoring Approach for Small and Medium Enterprises", 8th ACM/SPEC on International Conference on Performance Engineering Companion (ICPE '17), L'Aquila (Italy), April 22-26, 2017, pp. 97-100, doi: 10.1145/3053600.3053618.
14. D. Taibi, V. Lenarduzzi, P. Diebold and I. Lunesu. "Operationalizing the Experience Factory for Effort Estimation in Agile Processes" International Conference on Evaluation and Assessment in Software Engineering (EASE2017), Karlskrona (Sweden), June 15-16, 2017.
15. D. Taibi, V. Lenarduzzi, K. Liukkunen and M.O. Ahmad. "Comparing Communication Effort within the Scrum, Scrum with Kanban, XP, and Banana Development Processes". International Conference on Evaluation and Assessment in Software Engineering (EASE2017), Karlskrona (Sweden), 2017 June 15-16.

16. V. Lenarduzzi, A. C. Stan, D. Taibi, D. Tosi and G. Venters. "A Dynamical Quality Model to Continuously Monitor Software Maintenance". 11th European Conference on Information Systems Management (ECISM2017), 2017.
17. D. Tosi, V. Lenarduzzi, S. Morasca, D. Taibi, Experimenting Traditional and Modern Reliability Models in a 3-Years European Software Project. 11th European Conference on Information Systems Management (ECISM2017), 2017.
18. D. Taibi, V. Lenarduzzi, C. Pahl and A. Janes. "Microservices in Agile Software Development: First results on Issues, Advantages, and Disadvantages". First International Workshop on Microservices for Agile software development (WMSA17), Cologne, Germany, 2017, In Press.
19. V. Lenarduzzi, A. Sillitti and D. Taibi. "Analyzing Forty Years of Software Maintenance Models". International Conference on Software Engineering (ICSE2017). Buenos Aires, Argentina, 2017.
20. V. Lenarduzzi, A. C. Stan, D. Taibi, G. Venters and M. Windegger. "Prioritizing Corrective Maintenance Activities for Android Applications: An Industrial Case Study on Android Crash Reports" 10th International Conference on Software Quality Days, SWQD 2018; Vienna; Austria; 16-20 January 2018.
21. Y. Borgianni, V. Lenarduzzi, F. Rotini and D. Taibi. "Bringing Simulated Ideation in a Web Environment: Students' Evaluations of a Basic Software Release" 5th International Conference on Design Creativity (ICDC2018); Bath; UK; 31 Jan - 02 Feb 2018.
22. D. Taibi, V. Lenarduzzi and C. Pahl. "Architectural patterns for microservices: a systematic mapping study" 8th International Conference on Cloud Computing and Services Science (CLOSER2018); Funchal; Madeira; 19 - 21 March 2018.
23. V. Lenarduzzi and O. Sievi-Korte. "On the negative impact of team independence in microservices software development" 2th International Workshop on Microservices: Agile and DevOps Experience (MADE18), In Press
24. F. Auer, M. Felderer and V. Lenarduzzi. "Towards Defining a Microservice Migration Framework" 2th International Workshop on Microservices: Agile and DevOps Experience (MADE18), In Press
25. V. Lenarduzzi, M. I. Lunesu, M. Marchesi and R. Tonelli. "Blockchain applications for Agile methodologies" 19th International Conference on Agile Software Development (XP2018), In Press
26. V. Lenarduzzi and M. I. Lunesu. "The Lean Strategies: A tale of user-driven innovation processes" 19th International Conference on Agile Software Development (XP2018), In Press
27. L. Pellegrini and V. Lenarduzzi. "Are Code smells the root cause of faults? A continuous experimentation approach" 19th International Conference on Agile Software Development (XP2018), In Press
28. V. Lenarduzzi and O. Sievi-Korte. "Software Components Selection in Microservices-based Systems" 19th International Conference on Agile Software Development (XP2018), In Press
29. Lessons Learned on Communication Channels and Practices in Agile Software Development
30. M. O. Ahmad, V. Lenarduzzi, M. Oivo and D. Taibi. "Lessons Learned on Communication Channels and Practices in Agile Software Development" 2nd International Conference on Lean and Agile Software Development, In Press
31. V. Lenarduzzi and D. Taibi. "Microservices, Continuous Architecture, and Technical Debt Interest: An Empirical Study" Euromicro Conference on Software Engineering and Advanced Applications (SEAA), In Press

ENTREPRENEURSHIPS

2011 Co-founder OpenSoftEngineering s.r.l. Spin-off of University of Insubria

2017 Co-founder TRIPPYDU s.r.l.s

REFERENCES

prof. Dieter Rombach

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