SnT Centre - University of Luxembourg
29 Avenue J.F. Kennedy
L-1855 Luxembourg
(+352) 621 721 698
damianotorre@gmail.com
https://damianotorre.github.io
damianotorre
dctorre

Damiano Torre

Curriculum Vitae

Personal

Date of birth	May 9, 1983
Place of birth	Barletta (BT), Italy
Citizenship	Italian

Current Position

12/2018-present **Research Associate (Postdoc)**, University of Luxembourg, the Interdisciplinary Centre for Security, Reliability and Trust (SnT), Luxembourg.
Leading two main research projects involving industry partners from the legal and finance domain. Developing industrially applicable automated support for GDPR compliance assessment, and innovative solutions for improving requirements engineering in the financial domain.

Research Interests

My area of research is software engineering, with emphasis on model-based development, empirical software engineering, and legal and regulatory compliance.

Employment History

05/2018–08/2018 **Contract Instructor**, *Carleton University, the Department of Systems and Computer Engineering*, Ottawa, Canada.
Principal instructor (lectures) of one undergraduate and one graduate course.

09/2017–04/2018 **Contract Researcher**, *Carleton University, the Department of Systems and Computer Engineering*, Ottawa, Canada.
Carried out research on the topic of modeling and Eclipse Papyrus. Developed user manuals to assist academics and students in the use of modeling tools.

01/2017–08/2017 **Contract Instructor**, *Carleton University, the Department of Systems and Computer Engineering*, Ottawa, Canada.
Principal instructor (lectures) of one undergraduate and two graduate courses.

10/2015–04/2016 **Contract Researcher**, *University of Castilla-La Mancha, the University College of Computer Science*, Ciudad Real, Spain.
Developed OCL rules to check UML models' consistency in the Eclipse enviroment.

09/2012–09/2015 **Research Assistantship**, *Carleton University, the Department of Systems and Computer Engineering*, Ottawa, Canada.
Carried out empirical studies about the topic of UML consistency. Wrote research papers and presented them in international venues.

10/2011–03/2012 **Solution Assistant**, *Everis Spain S.L.*, Madrid, Spain.
Developed UML models with Vega Modeler and IBM Rational Rose to build software for the financial domain.

01/2009–09/2010 **Software Developer**, *University of Castilla-La Mancha, the University College of Computer Science*, Ciudad Real, Spain.
Developed a tool to check the quality of UML class diagrams using Java (jdom, swing, jdesktop, awt, useful, lang), XML, and XSD.

02/2001–08/2005 **IT Expert**, *Manifatture Roger s.r.l.*, Barletta, Italy.
Developed a database in MySQL to take care of the accounting of the external companies that worked for Manifatture Roger.

Education

09/2012–10/2018 **Ph.D. in Electrical and Computer Engineering**, *Carleton University, the Department of Systems and Computer Engineering, Ottawa, Canada*.
Advisors: Prof. Yvan Labiche, Prof. Marcela Genero, and Dr. Maged Elaasar
Ph.D. Thesis: *"Definition and Validation of Consistency rules between UML Diagrams"*

10/2009–07/2011 **M.Sc. in Advanced Informatics Technologies**, *University of Castilla-La Mancha, the University College of Computer Science, Ciudad Real, Spain*.
Advisor: Prof. Marcela Genero
M.Sc. Thesis: *"CQA-UML-METH Methodology to evaluate UML models"*

09/2005–10/2009 **B.Sc. in Computer Science**, *University of Bari Aldo Moro, the Department of Computer Science, Bari, Italy*.
Advisors: Prof. Giuseppe Visaggio and Prof. Marcela Genero
B.Sc. Thesis: *"CD-Tool: Design of a Tool to Calculate the Quality of Class Diagrams"*

Certifications

- Certificate in Preparing to Teach. Carleton University (Ottawa, Canada) 2015.
- IEEE Certificate on Tutorial on System and Software Reliability. 2015

Scholarships

- Research Collaborative Scholarship. University of Castilla-La Mancha (Ciudad Real, Spain). €5.600,00, 2009.
- Master Scholarship: Back to The Future (Puglia, Italy). €25.000,00, 2009.

Publications

Journal Articles

[1] **Damiano Torre**, Yvan Labiche, Marcela Genero, and Maged Elaasar. A systematic identification of consistency rules for UML diagrams. *Journal of Systems and Software*, 144:121–142, 2018.

[2] **Damiano Torre**, Mauricio Alferez, Ghanem Soltana, Mehrdad Sabetzadeh, and Lionel C. Briand. Model driven engineering for data protection and privacy: Application and experience with GDPR. (Under Review).

[3] Alvaro Veizaga, Mauricio Alferez, **Damiano Torre**, Mehrdad Sabetzadeh, and Lionel C. Briand. On systematically building a controlled natural language for functional requirements. (Under Review).

[4] **Damiano Torre**, Yvan Labiche, Marcela Genero, and Maged Elaasar. How consistency

is handled in model driven software engineering and UML: an expert opinion survey. (Under Review).

Conference Papers

[5] Alvaro Veizaga, Mauricio Alferez, **Damiano Torre**, Mehrdad Sabetzadeh, Lionel C. Briand, and Elene Pitskhelauri. Leveraging natural-language requirements for deriving better acceptance criteria from models. In *23rd ACM/IEEE International Conference on Model Driven Engineering Languages and Systems, MODELS 2020, Virtual, October 16-23*, 2020.

[6] **Damiano Torre**, Sallam Abualhaija, Mehrdad Sabetzadeh, Lionel C. Briand, Katrien Baetens, Peter Goes, and Sylvie Forastier. An AI-assisted approach for checking the completeness of privacy policies against GDPR. In *28th IEEE International Requirements Engineering Conference, RE 2020, Zurich, Switzerland, August 31-September 4, 2020*, pages 136–146, 2020.

[7] **Damiano Torre**, Yvan Labiche, Marcela Genero, Maged Elasaar, and Claudio Menghi. UML consistency rules: a case study with open-source UML models. In *8th IEEE/ACM International Conference on Formal Methods in Software Engineering (FormaliSE) 2020, Virtual, July 13, 2020*, pages 130–140, 2020.

[8] **Damiano Torre**, Ghanem Soltana, Mehrdad Sabetzadeh, Lionel C. Briand, Yuri Auffinger, and Peter Goes. Using models to enable compliance checking against the GDPR: an experience report. In *22nd ACM/IEEE International Conference on Model Driven Engineering Languages and Systems, MODELS 2019, Munich, Germany, September 15-20, 2019*, pages 1–11, 2019.

[9] **Damiano Torre**, Yvan Labiche, and Marcela Genero. UML consistency rules: a systematic mapping study. In *18th International Conference on Evaluation and Assessment in Software Engineering, EASE '14, London, England, United Kingdom, May 13-14, 2014*, pages 6:1–6:10, 2014.

[10] **Damiano Torre**. On collecting and validating UML consistency rules: a research proposal. In *18th International Conference on Evaluation and Assessment in Software Engineering, EASE '14, London, England, United Kingdom, May 13-14, 2014*, pages 57:1–57:4, 2014.

[11] Moisés Rodríguez, Marcela Genero, **Damiano Torre**, Belen Blasco, and Mario Piattini. A methodology for continuos quality assessment of software artefacts. In *Proceedings of the 10th International Conference on Quality Software, QSIC 2010, Zhangjiajie, China, 14-15 July 2010*, pages 254–261, 2010.

[12] **Damiano Torre**, Belen Blasco, Marcela Genero, and Mario Piattini. CQA-ENV: an integrated environment for the continuous quality assessment of software artifacts. In *New Trends in Software Methodologies, Tools and Techniques - Proceedings of the Eighth SoMeT 2009, September 23-25, 2009, Prague, Czech Republic*, pages 148–164, 2009.

Workshop Papers

[13] **Damiano Torre**, Yvan Labiche, Marcela Genero, Maria Teresa Baldassarre, and Maged Elaasar. UML diagram synthesis techniques: a systematic mapping study. In

Proceedings of the 10th International Workshop on Modelling in Software Engineering, MiSE@ICSE 2018, Gothenburg, Sweden, May 27-28, 2018, pages 33–40, 2018.

[14] **Damiano Torre**, Giuseppe Procaccianti, Davide Fucci, Sonja Lutovac, and Giuseppe Scanniello. On the presence of green and sustainable software engineering in higher education curricula. In *1st IEEE/ACM International Workshop on Software Engineering Curricula for Millennials, SECM@ICSE 2017, Buenos Aires, Argentina, May 27, 2017*, pages 54–60, 2017.

[15] **Damiano Torre**. Verifying the consistency of UML models. In *2016 IEEE International Symposium on Software Reliability Engineering Workshops, ISSRE Workshops 2016, Ottawa, ON, Canada, October 23-27, 2016*, pages 53–54, 2016.

[16] **Damiano Torre** and Coral Calero. How sustainable are model software artifacts in the context of model driven software engineering. In *Proceedings of the 3rd International Workshop on Measurement and Metrics for Green and Sustainable Software Systems, MeGSuS 2016, co-located with 10th International Symposium on Empirical Software Engineering and Measurement (ESEM 2016), Ciudad Real, Spain, September 7, 2016*, pages 43–52, 2016.

[17] **Damiano Torre**. On validating UML consistency rules. In *2015 IEEE International Symposium on Software Reliability Engineering Workshops, ISSRE Workshops, Gaithersburg, MD, USA, November 2-5, 2015*, pages 59–60, 2015.

[18] **Damiano Torre**, Yvan Labiche, Marcela Genero, and Maged Elaasar. UML consistency rules in technical books. In *2015 IEEE International Symposium on Software Reliability Engineering Workshops, ISSRE Workshops, Gaithersburg, MD, USA, November 2-5, 2015*, page 68, 2015.

Others

[19] **Damiano Torre**, Yvan Labiche, Marcela Genero, Maged Elaasar, Tuhin Kanti Das, Bernhard Hoisl, and Matthias Kowal. 1st international workshop on UML consistency rules (WUCOR 2015): Post workshop report. *ACM SIGSOFT Software Engineering Notes*, 41(2):34–37, 2016.

[20] **Damiano Torre**, Yvan Labiche, Marcela Genero, and Maged Elaasar. Introduction to WUCOR 2015. In *Joint Proceedings of the 8th International Workshop on Model-based Architecting of Cyber-physical and Embedded Systems and 1st International Workshop on UML Consistency Rules (ACES-MB 2015 & WUCOR 2015) co-located with ACM/IEEE 18th International Conference on Model Driven Engineering Languages and Systems (MoDELS 2015), Ottawa, Canada, September 28, 2015*, pages 27–28, 2015.

[21] Iulia Dragomir, Susanne Graf, Gabor Karsai, Florian Noyrit, Iulian Ober, **Damiano Torre**, Yvan Labiche, Marcela Genero, and Maged Elaasar, editors. *Joint Proceedings of the 8th International Workshop on Model-based Architecting of Cyber-physical and Embedded Systems and 1st International Workshop on UML Consistency Rules (ACES-MB 2015 & WUCOR 2015) co-located with ACM/IEEE 18th International Conference on Model Driven Engineering Languages and Systems (MoDELS 2015), Ottawa, Canada, September 28, 2015*, volume 1508 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2015.

Research Projects

01/2020–12/2022 **ARTAGO**, *Artificial intelligence-enabled Automation for GDPR Compliance*, University of Luxembourg, the Interdisciplinary Centre for Security, Reliability and Trust (SnT), Luxembourg, Industry Partner: Linklaters LLP.
Role: Lead Scientist, Technical contributor to the proposal, and Industry Partner Manager (PI: Mehrdad Sabetzadeh)
Amount: €380.524,00

01/2019–12/2021 **IMoReF**, *Improved Model-based Requirements for Financial Applications*, University of Luxembourg, the Interdisciplinary Centre for Security, Reliability and Trust (SnT), Luxembourg, Industry Partner: Clearstream Deutsche Börse AG.
Role: Technical Contributor and Industry Partner Manager (PI: Lionel Briand)
Amount: €393.116,00

01/2010–12/2012 **PEGASO-MAGO**, *Advanced Improvement of Global Software Process*, University of Castilla-La Mancha, the University College of Computer Science, Ciudad Real, Spain.
Role: Technical Contributor (PI: Mario Piattini Velthuis)
Amount: €724.306,00

04/2011–03/2012 **IMPACTUM**, *ISBW Application in the study of the IMPACT of UML in the development of the software in a DSDM-LPS environment*, University of Castilla-La Mancha, the University College of Computer Science, Ciudad Real, Spain.
Role: Technical Contributor (PI: Jose Antonio Cruz Lemus)
Amount: €50.000,00

Supervision of Individuals

Doctoral Students

10/2019–present Orlando Amaral Cejas, University of Luxembourg, Luxembourg, co-advised with Mehrdad Sabetzadeh and Sallam Abualhaija

08/2019-present Alvaro Veizaga, University of Luxembourg, Luxembourg, co-advised with Mehrdad Sabetzadeh and Mauricio Alferez

Master Student

07/2019–present Aleksander Vatov, University of Luxembourg, Luxembourg, co-advised with Mehrdad Sabetzadeh

Graduated Master Student

01/2017–04/2017 Haiyang Bu, Carleton University, Ottawa, Canada, co-advised with Yvan Labiche

Teaching Experience

Summer 2018 **Principal Instructor**, *SYSC-2100, Algorithms and Data Structures (undergraduate)*, Carleton University, the Department of Systems and Computer Engineering, Ottawa, Canada.
Students learned (a) common programming techniques/algorithms (recursion, searching and sorting) (b) several fundamental ADTs and data structures, (c) how to develop the specifications for ADTs, design their underlying data structures, and implement the ADTs as Java classes, and (d) techniques for designing and analyzing algorithms.

Summer 2018 **Principal Instructor**, *SYSC-5709, Advanced Topics in Software Engineering Model Driven Software Engineering in Practice (graduate)*, Carleton University, the Department of Systems and Computer Engineering, Ottawa, Canada.
Student learned how to (a) define domain-specific modelling languages with Meta-Object Facility technology in Eclipse, (b) define abstract and concrete syntax, validation rules, model transformations, code generators and graphical editors, and (c) enable collaborative modeling.

Winter 2017 **Principal Instructor**, *SYSC-4102, Performance Engineering (undergraduate)*, Carleton University, the Department of Systems and Computer Engineering, Ottawa, Canada.

Students learned about all the basic approaches to performance engineering (measurement techniques, setting up of test environments, interpreting and comparing results, models that explain capacity constraints and delays.

Winter 2017 **Principal Instructor**, *SYSC-5101, Design of High-Performance Software (graduate)*, Carleton University, the Department of Systems and Computer Engineering, Ottawa, Canada.

Students learned about (a) how to design software to performance demanding specifications, (b) analysis using models of computation, workload, and performance, (c) principles to govern design improvement for sequential, concurrent and parallel execution, based on resource architecture and quantitative analysis.

Summer 2017 **Principal Instructor**, *SYSC-5709, Advanced Topics in Software Engineering Model Driven Software Engineering in Practice (graduate)*, Carleton University, the Department of Systems and Computer Engineering, Ottawa, Canada.

Student learned how to (a) define domain-specific modelling languages with Meta-Object Facility technology in Eclipse, (b) define abstract and concrete syntax, validation rules, model transformations, code generators and graphical editors, and (c) enable collaborative modeling.

Professional Service

Conference/Workshop Chairmanship

- Workshops Co-chair: the 31st IEEE International Symposium on Software Reliability Engineering (ISSRE 2020)
- Fast Abstract Co-chair: the 30th IEEE International Symposium on Software Reliability Engineering (ISSRE 2019)
- Publicity Co-chair: the 29th IEEE International Symposium on Software Reliability Engineering (ISSRE 2018)
- Doctoral Symposium Co-chair: the 28th IEEE International Symposium on Software Reliability Engineering (ISSRE 2017)
- Publicity and Local Arrangements Chair: the 27th IEEE International Symposium on Software Reliability Engineering (ISSRE 2016)
- Principal Chair organizer: the 1st International Workshop on UML Consistency Rules (WUCOR 2015), collocated with MODELS 2015
- Web Chair: the 26th IEEE International Symposium on Software Reliability Engineering (ISSRE 2015)

Program Committee Membership

- 43rd International Conference on Software Engineering, Posters (ICSE 2021)
- 31st IEEE International Symposium on Software Reliability Engineering (ISSRE 2020)
- 14th International Symposium on Empirical Software Engineering and Measurement, Emerging results, Vision papers and Poster track (ESEM 2020)
- 31st IEEE International Symposium on Software Reliability Engineering, Fast Abstract (ISSRE 2020)
- Ingeniería del Software y Bases de Datos (JISBD 2020)
- 30th IEEE International Symposium on Software Reliability Engineering (ISSRE 2019)

- 13th International Symposium on Empirical Software Engineering and Measurement, IDoESE Doctoral Symposium (ESEM 2019)
- 13th International Symposium on Empirical Software Engineering and Measurement, Emerging results, Vision papers and Poster track (ESEM 2019)
- 29th IEEE International Symposium on Software Reliability Engineering (ISSRE 2018)
- 12th International Symposium on Empirical Software Engineering and Measurement, Emerging results, Vision papers and Poster track (ESEM 2018)
- 1st IEEE Workshop on NEXt level of Test Automation (NEXTA 2018)

Reviewer Service

- e-Informatica Software Engineering Journal, 2020
- IEEE Transactions on Industrial Informatics, 2019
- Computer Standards & Interfaces, 2019
- Information and Software Technology, 2019
- Software Testing Verification and Reliability, 2019
- IEEE Software, 2018
- Journal on Computer Science and Engineering, 2018

Other

- Student volunteer at the 5th International Conference on Information and Communication Technology for for Sustainability (ICT4S 2018)
- Local organizing committee at the Empirical Software Engineering International Week (ESEIW 2016)
- Student volunteer at the 23rd ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS 2015), awarded as "Best Student Volunteer"
- Student volunteer at the 15th Evaluation and Assessment in Software Engineering conference (EASE 2012)
- Systems and Computer Engineering Department representative at the Graduate Students Associations council at Carleton University (Ottawa, Canada) 2012-2017.
- Board member of the Carleton Food Collective at Carleton University (Ottawa, Canada) 2012-2016.
- IEEE student member from 2016 to 2018. IEEE regular member since 2018 to present.

Presentations

Invited Industry Presentation

12/2019 SnT/Linklaters Collaboration GDPR Project: AI-assisted approach for checking the completeness of privacy policies against GDPR. Linklaters, London, UK.

Academic Conference Presentations

06/2020 UML consistency rules: a case study with open-source UML models. 8th IEEE/ACM International Conference on Formal Methods in Software Engineering (FormaliSE 2020), Virtual

09/2019 Using models to enable compliance checking against the GDPR: an experience report. 22nd ACM/IEEE International Conference on Model Driven Engineering Languages and Systems, (MODELS 2019), Munich, Germany

10/2016 Verifying the consistency of UML models. 27th IEEE International Symposium on Software Reliability Engineering Workshops (ISSRE 2016), Ottawa, Canada

09/2016 How sustainable are model software artifacts in the context of model driven software engineering. 3rd International Workshop on Measurement and Metrics for Green and Sustainable Software Systems (MeGSuS 2016), co-located with ESEM 2016, Ciudad Real, Spain

11/2015 On validating UML consistency rules. 26th IEEE International Symposium on Software Reliability Engineering Workshops (ISSRE 2015), Gaithersburg, USA

11/2015 UML consistency rules in technical books. 26th IEEE International Symposium on Software Reliability Engineering Workshops (ISSRE 2015), Gaithersburg, USA

05/2014 UML consistency rules: a systematic mapping study. 8th International Conference on Evaluation and Assessment in Software Engineering (EASE 2014), London, UK

05/2014 On collecting and validating UML consistency rules: a research proposal. 8th International Conference on Evaluation and Assessment in Software Engineering (EASE 2014), London, UK

09/2009 CQA-ENV: an integrated environment for the continuous quality assessment of software artifacts. 8th International Conference on New Trends in Software Methodologies, Tools and Technique (SoMeT 2009), Prague, Czech Republic

Languages

Italian native

English fluent

Spanish fluent

Hobbies

Cooking, hiking, and gardening