University Academic Curriculum Vitae

Personal information

Alessandro Gianola
Place of birth: Sondrio (SO), Italy
Date of birth: 25/02/1993
Nationality: Italian
Number of children: 0
Address: Via Glorenza 70, Bolzano (BZ), Italy
E-Mail: gianola@inf.unibz.it

Education since leaving school

- PhD in Computer Science (cum laude), Free University of Bozen-Bolzano, 2022.
- Master's Degree in Mathematics, Università degli Studi di Milano, 2017. Final mark: 110/110, cum laude.
- Bachelor's Degree in Mathematics, Università degli Studi di Milano, 2015. Final mark: 110/110, cum laude
- Diploma Liceo Classico, Istituto Comprensivo ``G. Piazzi-L. Perpenti'' (Sondrio), 2012. Final mark: 100/100, cum laude

Present appointment

- Research Assistant in Computer Science
- Start of appointment: 01/11/2021
- Employer: Free University of Bozen-Bolzano
- Currently, I am a Postdoctoral Researcher in Computer Science at the KRDB Research Centre for Knowledge and Data (Free University of Bozen-Bolzano), working on verification of complex processes enriched with structured data using automated reasoning techniques, formal methods and computational logic.
- Main Research Areas: Automated Reasoning, Formal Methods, Model Checking, Business Process Management, Artificial Intelligence, Computational Logic, Mathematical Logic

Professional experience

- I am a Research Assistant at the Faculty of Computer Science of the Free University of Bozen-Bolzano, Italy.
- I was Lab Instructor in the course of Advanced Statistics for the Master in Computational Data Science at the Free University of Bozen-Bolzano (academic year 2021/2022). The lecturer of the course was prof. Emanuele Taufer (Università degli Studi di Trento).
- I had an internship at the University of California San Diego (UCSD), where I was a research affiliate in the Database Lab.
- I was Teaching Assistant in the course of Probability Theory and Statistics for the Bachelor in Computer Science at the Free University of Bozen-Bolzano (academic year 2019/2020). The lecturer of the course was prof. Werner Nutt (Free University of Bozen-Bolzano).
- My first professional experience was during my undergraduate studies, when I had an internship at Liceo Scientifico 'Donegani' (Sondrio, Italy): there, I was tutor of the mathematics class and I taught basic mathematical analysis.

From / to	Job title	Name of academic Institution	Academic level	responsibilities
01/03/2015 - 01/06/2015	Tutor	Liceo Scientifico 'Donegani' (Sondrio, Italy)	Undergraduate	Class of Mathematics
30.09.2019 – 30.09.2020	Teaching Assistant	Free University of Bozen-Bolzano	PhD Candidate	Course: Probability Theory and Statistics (Bachelor in Computer Science)
15/02/2020 -05/08/2020	Visiting Scholar – Research Affiliate	University of California San Diego (UCSD)	PhD Candidate	Research experience and collaboration at the Computer Science and Engineering (CSE) Department
01/03/2022 -30/06/2022	Lab Instructor	Free University of Bozen-Bolzano	Research Assistant	Course: Advanced Statistics (Master in Computational Data Science)

Experience in academic teaching

- Lab Instructor in Advanced Statistics: Free University of Bozen-Bolzano, MAT/06, graduate course (Master in Computation Data Science), academic year 2021/2022. Lecturer: Emanuele Taufer.
- Teaching Assistant in Probability Theory and Statistics: Free University of Bozen-Bolzano, MAT/06, undergraduate course (Bachelor in Computer Science), academic year 2019/2020. Lecturer: Werner Nutt.
- Co-supervisor of a Bachelor's thesis in Computer Science (academic year 2018-2019): Davide Cremonini. Title of the thesis: *An SMT-based formalization of data-aware BPMN*. Supervisor: Prof. Marco Montali
- Co-supervisor of a Bachelor's thesis in Computer Science (academic year 2018-2019): Marco Briozzi. Title of the thesis: *Extending the ePNK Petri Net Framework towards DB-Net support*. Supervisor: Prof. Marco Montali

Thanks to my experiences in teaching both at the high-school and at the university level, I have developed several skills in order to communicate challenging topics in (applied) mathematics to students. I always try to find new effective techniques to make the students more confident. The experience of supervising bachelor's students taught me how to deeply understand and then help to solve in many different ways several types of problems that they can come across.

Other academic responibilities

- Appointment and Research Experience at the Department of Computer Science and Engineering (CSE), University of California San Diego (UCSD): Visiting Scholar – Research Affiliate from February to August 2020 (6 months). Research topic: formal verification of business processes enriched with complex data constrained by relational databases. Collaboration with prof. Victor Vianu and prof. Alin Deutsch.
- Research collaboration with prof. Silvio Ghilardi (Università degli Studi di Milano) since 2017, on the topic of formal verification of data-aware processes using automated reasoning techniques

Memberships

Program Committee of Workshops and Conferences

- **4th Workshop on Artificial Intelligence and Formal Verification, Logic, Automata and Synthesis (OVERLAY 2022)**, Udine, Italy. 2022 PC member

Editorial Activity

- **Additional Reviewer,** 11th International Joint Conference on Automated Reasoning (IJCAR 2022), Haifa, Israel (Conference). 2022
- **Additional Reviewer**, 28th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2022), Munich, Germany (Conference). 2022
- **Reviewer,** Journal of Automated Reasoning (Journal). 2021
- **Reviewer**, Theoretical Computer Science (Journal). 2020
- **Additional Reviewer**, 10th International Joint Conference on Automated Reasoning (IJCAR 2020), Paris, France (Conference). 2020
- **Additional Reviewer**, 12th International Symposium on Frontiers of Combining Systems (FroCoS 2019), London, UK (Conference). 2019
- **Additional Reviewer**, 27th International Conference on Automated Deduction (CADE 27), Natal, Brazil (Conference). 2019
- **Additional Reviewer**, 34th Italian Conference on Computational Logic (CILC 2019), Trieste, Italy (Conference). 2019
- **Additional Reviewer**, Journal of Automated Reasoning - CADE 26 Special Issue (Journal). 2018
- **Additional Reviewer**, 9th international Joint Conference on Automated Reasoning (IJCAR 2018), Oxford, UK (Conference) 2018
- **Additional Reviewer**, 11th International Symposium on Frontiers of Combining Systems (FroCoS 2017), Brasilia, Brazil (Conference). 2017

- **Additional Reviewer,** 26th International Conference on Automated Deduction (CADE 26), Gothenburg, Sweden (Conference). 2017

Research and scholarships

- I hold a research assistant contract at the Free University of Bozen-Bolzano (November 2021- November 2022): € 28,000 per year.
- I held a four-year PhD scholarship at the Free University of Bozen-Bolzano (November 2017- November 2021): € 17,000 per year.
- During the 27th International Conference on Automated Deduction (CADE-27), I was one of the recipients of the **Woody Bledsoe Award** 2019, which is a travel grant that supports students who obtained outstanding achievements in automated reasoning. I won it for the results in automated reasoning (applied to data-aware processes verification) that I obtained during my PhD project.
- I was part of the scientific staff (team member) of the RTD UNIBZ project SMARTEST (01/11/2019 – 31/07/2020), which funded my research visit at UCSD (€ 6000)
- During my PhD projects, I obtained several results in the field of automated reasoning, most of which were applied to the investigate algorithmic methods to automatically verify complex business processes enriched with data. The continuation of the this project led to the collaboration with the Database Lab at UCSD, together with the applications to verification of Multi-Agent Systems, The last results were published in [C9,C11] (C9 won the Best Paper Award, whereas C11 was published in a A* conference in the field of Artificial Intelligence)

Date granted	Award Holder(s)	Funding Body	Title	Amount received
01/11/2017	Alessandro Gianola	Free University of Bozen-Bolzano	PhD scholarship	€ 68,000
23/08/2019	Alessandro Gianola	Association of Automated Reasoning	Woody Bledsoe's Travel Award	€ 250
01/11/2019	Paolo Felli and Alessandro Gianola	Free University of Bozen-Bolzan	SMARTEST: RTD Unibz Research project	€ 6000

Research Impact

- According to Google Scholar, as of July 4, 2022:
  - my papers have received 298 overall citations
  - I have an h-index of 9
  - I have an i-10 index of 9
- According to Scopus, as of July 4, 2022:
  - my papers have received 155 overall citations;
  - I have have an h-index of 8.

Awards

- Recipient of the **Best Paper Award** at the 19th International Conference

on Business Process Management (BPM 2021).

- Recipient of the **Best Paper Award** at the 23rd International Conference on Principles and Practice of Multi-Agent Systems (PRIMA 2020).
- Recipient of the **Woody Bledsoe Award** 2019 at 27th International Conference on Automated Deduction (CADE-27), Natal, Brazil.
  The Woody Bledsoe award honors outstanding contributions of students to automated reasoning and automated deduction.
- **XX olimpiade di filosofia, fase nazionale**, final round, Torino, Italy. 2012
  Second Place
- **XX olimpiade di filosofia, fase regionale (Lombardia)**, semi-final round (regional contest),Bergamo, Italy. 2012
  First Place

Computer Skills

- **Programming Languages:** C, Matlab, R, LaTeX.
- **Software Employed**: Z3 (SMT Solver), Yices (SMT Solver), Mathsat (SMT Solver), SPASS (first order theorem prover), MCMT (model checker), Camunda (tool for business process modeling), ProM Tools, BLACK.

Publications

(*) = significant
(PhD) = related to the PhD

The following peer-reviewed publications are divided into four different categories: journal articles in refereed academic journals, conference papers with refereed proceedings, chapters in refereed books, and workshop papers with refereed proceedings.

- **Journal articles in refereed academic journals**

(*) [J1] S. Ghilardi and A. Gianola, *Modularity Results for Interpolation, Amalgamation and Superamalgamation*. **Annals of Pure and Applied Logic**, volume 169, n. 8, pages 731-754, 2018. https://doi.org/10.1016/j.apal.2018.04.001

[J2] A. Gianola, S. Kasangian, D. Manicardi, N. Sabadini, F. Schiavio, S. Tini. *CospanSpan(Graph): a compositional description of the heart system.* **Fundamenta Informaticae**, volume 171 (1-4), pages 221–237, 2020. https://doi.org/10.3233/FI-2020-1880

(*),(PhD) [J3] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, and A. Rivkin. *SMT-based verification of data-aware processes: a model-theoretic approach*. **Mathematical Structures in Computer Science**, volume 30, n. 3, pages 271–313, 2020. https://doi.org/10.1017/S0960129520000067

(*),(PhD) [J4] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali and A. Rivkin. *Model completeness, Uniform Interpolants and Superposition Calculus (with Applications to Verification of Data-Aware Processes).* **Journal of Automated Reasoning**, volume 65, n. 7, pages 941-969, 2021. https://doi.org/10.1007/s10817-021-09596-x

(*),(PhD) [J5] S. Ghilardi, A. Gianola, M. Montali and A. Rivkin. *Petri Net-Based Object-Centric Processes with Read-Only Data.* **Information Systems**, volume 107, 2022. https://doi.org/10.1016/j.is.2022.102011

(*),(PhD) [J6] S. Ghilardi, A. Gianola and D. Kapur. *Uniform Interpolants in EUF: Algorithms using DAG- representations.* **Logical Methods in Computer Science,** volume 18, n. 2, 2022. https://doi.org/10.46298/lmcs-18(2:2)2022

(*),(PhD) [J7] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali and A. Rivkin. *Combination of Uniform Interpolants via Beth Definability,* **Journal of Automated Reasoning**, volume 66, n. 3, 2022.

- **Conference papers with refereed proceedings**

[C1] A. Gianola, S. Kasangian and N. Sabadini. *Cospan/Span(Graph): an Algebra for Open, Reconfigurable Automata Networks.* Proceedings of **CALCO 2017**, volume 72, pages 2:1–2:17,Schloss Dagstuhl: LIPIcs, 2017. https://doi.org/10.4230/LIPIcs.CALCO.2017.2

[C2] S. Ghilardi and A. Gianola, *Interpolation, Amalgamation and Combination (the non-disjoint signatures case).* Proceedings of **FroCoS 2017**, volume 10483 of LNCS (LNAI), pages 316-332, Springer, 2017. https://doi.org/10.1007/978-3-319-66167-4_18

(*),(PhD) [C3] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, and A. Rivkin. *Formal Modeling and SMT-based Parameterized Verification of Data-Aware BPMN.* Proceedings of **BPM 2019**, volume 11675 of LNCS, pages 157-175, Springer, 2019. https://doi.org/10.1007/978-3-030-26619-6_12

(*),(PhD) [C4] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, and A. Rivkin. *Model Completeness, Covers and Superposition*. Proceedings of **CADE-27**, volume 11716 of LNCS (LNAI), pages 142-170, Springer, 2019. https://doi.org/10.1007/978-3-030-29436-6_9

(*),(PhD) [C5] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, and A. Rivkin. *Combined Covers and Beth Definability*. Proceedings of **IJCAR 2020**, volume 12166 of LNCS (LNAI), pages 181-200, Springer, 2020. https://doi.org/10.1007/978-3-030-51074-9_11

[C6] A. Gianola, S. Kasangian, D. Manicardi, N. Sabadini, S. Tini. *Compositional Modeling of Biological Systems in CospanSpan(Graph)*. Proceedings of **ICTCS 2020**, pages 61-66, CEUR-WS, 2020. http://ceur-ws.org/Vol-2756/paper_6.pdf

(PhD) [C7] S. Ghilardi, A. Gianola, D. Kapur, *Computing Uniform Interpolants for EUF via (conditional) DAG-based Compact Representations*. Proceedings of **CILC 2020**, volume 2710, pages 67-81, CEUR-WS, 2020. http://ceur-ws.org/Vol-2710/paper5.pdf

(*),(PhD) [C8] S. Ghilardi, A. Gianola, M. Montali, and A. Rivkin. *Petri Nets with Parameterised Data: Modelling and Verification*. Proceedings of **BPM 2020**, volume 12168 LNCS (LNAI), pages 55-74, Springer, 2020. https://doi.org/10.1007/978-3-030-58666-9_4

(*),(PhD) [C9] P. Felli, A. Gianola, M. Montali. *A SMT-based Implementation for Safety Checking of Parameterized Multi-Agent Systems*. Proceedings of **PRIMA 2020**, volume 12568, LNCS (LNAI), pages 259-280, Springer, 2021. **Best Paper Award at PRIMA 2020.** https://doi.org/10.1007/978-3-030-69322-0_17

(*) [C10] S. Ghilardi, A. Gianola, D. Kapur. *Interpolation and Amalgamation for Arrays with MaxDiff*. Proceedings of **FoSSaCS 2021**, volume 12650 of LNCS, pages 268-288, Springer, 2021. https://doi.org/10.1007/978-3-030-71995-1_14

(*),(PhD) [C11] P. Felli, A. Gianola, M. Montali. *SMT-based Safety Checking of Parameterized Multi-Agent Systems*. Proceedings of **AAAI 2021**, pages 6321-6330, AAAI Press, 2021. https://ojs.aaai.org/index.php/AAAI/article/view/16785

(*),(PhD) [C12] P. Felli, A. Gianola, M. Montali, A. Rivkin, S. Winkler. *CoCoMoT:*

Conformance Checking of Multi-Perspective Processes via SMT. Proceedings of **BPM 2021**, volume 12875 of LNCS, pages 217-234, Springer. 2021. **Best Paper Award at BPM 2021.** https://doi.org/10.1007/978-3-030-85469-0_15

(*),(PhD) [C13] S. Ghilardi, A. Gianola, M. Montali, A. Rivkin. *Delta-BPMN: a Concrete Language and Verifier for Data-Aware BPMN.* Proceedings of **BPM 2021**, volume 12875 of LNCS, pages 179-196, Springer. 2021. https://doi.org/10.1007/978-3-030-85469-0_13

[C14] E. Di Lavore, A. Gianola, M. Román, N. Sabadini, P. Sobociński. *A canonical algebra of open transition systems.* Proceedings of **FACS 2021**, volume 13077 of LNCS, pages 63-81, Springer. 2021

(*) [C15] L. Geatti, A. Gianola, N. Gigante. *Linear Temporal Logic Modulo Theories over Finite Traces*. Proceedings of **IJCAI 2022**. To appear.

(*) [C16] P. Felli, A. Gianola, M. Montali, A. Rivkin, S. Winkler. *Conformance Checking with Uncertainty via SMT.* Proceedings of **BPM 2022.**To appear.

- **Chapters in refereed books**

(PhD) [B1] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, and A. Rivkin. *From Model Completeness to Verification of Data Aware Processes*. In C. Lutz, U. Sattler, C. Tinelli, A.-Y. Turhan, and F. Wolter, editors, *Description Logic, Theory Combination, and All That*, volume 11560 of *LNCS,* pages 212-239, Springer, 2019. https://doi.org/10.1007/978-3-030-22102-7_10

- **Workshop papers with referred proceedings**

(PhD) [W1] D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, and A. Rivkin. *Verification of Data-Aware Processes: Challenges and Opportunities for Automated Reasoning*. Proceedings of **ARCADE 2019**, 2nd International Workshop on Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements. EPTCS, volume 311, pages 53–58, 2019. http://dx.doi.org/10.4204/EPTCS.311.9

[W2] J. A. Castellanos Joo, S. Ghilardi, A. Gianola and D. Kapur. *AXDInterpolator: a Tool for Computing Interpolants for Arrays with MaxDiff.* Proceedings of **SMT 2021**, volume 2908, pages 40-52, CEUR-WS, 2021. http://ceur-ws.org/Vol-2908/paper15.pdf

[W3] A. Burattin, A. Gianola, Hugo A. López, M. Montali. *Exploring the Conformance Space (Extended Bastract).* Proceedings of **ITBPM 2021**, volume 2952, pages 62-67, CEUR-WS, 2021. http://ceur-ws.org/Vol-2952/paper_301a.pdf

(PhD) [W4] D. Calvanese, A. Gianola, A. Mazzullo, M. Montali. *SMT-Based Safety Verification of Data-Aware Processes under Ontologies (Preliminary Results).* Proceedings of **DL 2021**, volume 2954, CEUR-WS, 2021. http://ceur-ws.org/Vol-2954/paper-9.pdf

(PhD) [W5] A. Gianola, M. Montali, M. Papini. *Automated Reasoning for Reinforcement Learning Agents in Structured Environments.* Proceedings of **OVERLAY 2021**, volume 2987, pages 43-48, CEUR-WS, 2021. http://ceur-ws.org/Vol-2987/paper8.pdf

Further Data **Presentations at International Conferences and Workshops**

- **10th International Conference on Topology, Algebra and Categories in Logic (TACL 2022)**, Coimbra, Portugal. June 2022.
  Speaker: presentation of accepted contribution.
- **3rd Workshop on Artificial Intelligence and Formal Verification, Logic, Automata, and Synthesis (OVERLAY 2021),** Padova, Italy. September 2021.
  Speaker: presentation of accepted workshop paper
- **24th International Conference on Foundations of Software Science and Computation Structures (FoSSaCS 2021),** Online. March 2021.
  Speaker: presentation of accepted conference paper
- **10th International Joint Conference on Automated Reasoning (IJCAR 2020),** Online. July 2020.
  Speaker: presentation of accepted conference paper
- **35th Italian Conference on Computational Logic (CILC 2020)**, Rende, Italy. October 2020.
  Speaker: presentation of accepted conference paper
- **27th International Conference on Automated Deduction (CADE 27),** Natal, Brazil. August 2019
  Speaker: presentation of accepted conference paper
- **2nd International ARCADE (Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements) Workshop,** Natal, Brazil. August 2019.
  Speaker: presentation of accepted workshop paper
- **34th Italian Conference on Computational Logic (CILC 2019)**, Trieste, Italy. June 2019
  Speaker: presentation of accepted conference paper
- **33rd Italian Conference on Computational Logic (CILC 2018)**, Bolzano, Italy. September 2018

  Speaker: presentation of accepted conference paper

International Seminars and Talks

- **Logic4Peace (fundraising online Logic event for Peace)**, Talk, Online. April 2022. Sponsored by the University of Amsterdam and other institutions.
  Speaker
- **SMT-based verification of data-aware processes**, Talk at UCSD, San Diego (CA), USA. February 2020
  Speaker
- **Towards a compositional, SMT-based verification of data-aware processes**,
  Talk at the MIT Categories Seminar, Boston (MA), USA. March 2020
  Speaker
- **Uniform Interpolation and Quantifier Elimination for Verification of Data-Aware Processes**, Talk at UCSD, San Diego (CA), USA. April 2020.
  Speaker

Statement of interest

I have started working on mathematical logic and its applications to formal methods and verification since my Master's thesis in Mathematics in 2017: there, I studied the combination of modal logics and of theories well-studied in automated reasoning (then published in [J1,C2]). These results can be also used to automatically reason about data structures employed in software model checking. During my PhD at the KRDB Research Centre (UNIBZ), I worked mainly in formal methods: I studied the theoretical foundations of the safety verification of data-aware processes (cf. [J3]) via automated reasoning and SMT-based techniques (cf. [C4,C5]), and then their applications to the analysis of real-world business processes enriched with concrete data ([C3,C13]) and extensions of Petri nets ([C8,J5]). This verification is carried out exploiting the state-of-the-art SMT-based model checker MCMT. Recently, I have also leveraged the theoretical framework of [J3] to attack the problem of formally verifying safety of Multi-Agent Systems ([C9,C11]) via the model checker MCMT: this work was supported by the RTD UNIBZ project SMARTEST. Therefore, during my PhD I have developed several skills in the context of modeling data-aware business processes using concrete tools like Camunda, and in the context of formal verification of data-aware processes via automated reasoning techniques and SMT solving: apart from MCMT, I have a long experience in using SMT solvers like Z3, Mathsat (especially for computing interpolants [C10]) and Yices, first-order theorem provers like SPASS and on verifiers for data-aware processes such as VERIFAS. My PhD project created a fruitful collaboration between Prof. Silvio Ghilardi (UNIMI) and the KRDB Research Centre: during this project, I also co-supervised two Bachelor's theses on strictly related topics (SMT-based formalization of data-aware business process, and implementation of data-aware extensions of Petri nets). In 2020, I was also Visiting Scholar at the CSE Department of the University of California San Diego (UCSD), working in the Database Lab, where I started an on-going collaboration with prof. Victor Vianu and prof. Alin Deutsch (main developers of VERIFAS) on modeling and verification of database-driven business processes, with the aim of combining the framework I introduced with theirs and of developing a new tool merging MCMT and VERIFAS capabilities.

During the last two years, I have also worked in the research area of process mining and, in particular, of conformance checking: in the conference paper [C12], that also won the Best Paper Award at BPM2021, we took inspiration from the framework from [J3,C3] to attack the problem of data-aware conformance checking via SMT solving, and we develop and implemented new effective techniques for solving the problem efficiently. Moreover, in [C16] we extended the setting and the implementation of [C12] so as to investigate conformance checking with uncertainty. These papers originated from a new research project about process mining for process models enriched with data that is strictly related to the project of data-aware process verification, and thanks to this I also became familiar with the ProM Tools and its framework, that support a variety of process mining techniques.

During the first year of my Post-Doc, in the context of formal methods I have also worked on the problem of satisfiability and model-checking in a first-order version of LTL over finite traces, that we studied from the algorithmic point of view by employing tableaux-based techniques and their encoding into SMT solving. This was implemented in the state-of-the-art LTL satisfiability checker BLACK [C15]. I am currently applying these results to attack the problem of verification beyond safety (e.g., liveness) of data-aware

processes.
The topic of my research project for my current job position is the natural continuation of my PhD project and the work on verification of data-aware processes, of the collaborations with the UCSD Database Lab and UNIMI, and of my recent research activity in process mining. I expect to continue these collaborations so as to devise original automated reasoning techniques able to handle more sophisticated systems of processes with data, and to extend the results obtained so far to verification tasks different than safety (e,g., liveness), both from the foundational and the practical perspective. I also intend to go on in the investigation of symbolic methods for performing process mining tasks in the context of processes enriched with real data.
Finally, I am currently investigating extensions of the theoretical framework from [J3] to Description Logic (DL) ontologies: the goal is to obtain theoretical and algorithmic results regarding the verification of complex processes whose background knowledge (i.e., the data-enrichment part) is constrained by DL ontologies. These results can be then directly applied to real-world ontology-based systems, thanks to the availability of the model checker MCMT: first preliminary results on this are in [W4].

Language competence

Italian: Native Speaker (C2)
English: Fluent (C1)
Portuguese: Independent User (B2)

Driving license

B Category (European Driving License)

Updated on 05/07/2022.

Alessandro Gianola