

# FRANCESCO FABIANO

## Curriculum Vitae

### PERSONAL INFORMATION

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 ADDRESS via Caumont Caimi, 12 Felino (PR), Italy  
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 WEBPAGE <https://francescofabiano.github.io>

### RESEARCH INTERESTS

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Artificial Intelligence • Hybrid AI Systems • Multi-agent Systems • Automated Planning • Logic/Constraint Programming • Epistemic/Doxastic Reasoning • Knowledge Representation • Belief Manipulation • Belief Update

### LANGUAGES

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Italian *native speaker*  
English *highly proficient in both spoken and written language*  
Spanish *basic knowledge*



### EDUCATION

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04/2020–ongoing **Joint Study** (telecommuting due to COVID-19 pandemic)  
International Business Machines (IBM) Corporation, Yorktown Heights (NY), USA  
Advisor: Prof. Francesca Rossi  
Research: Define new neuro-symbolic frameworks inspired by cognitive theories.

11/2018–10/2021 **Ph.D. in Computer Science, cum Laude**  
University of Udine, Udine, Italy  
Award: **Best Ph.D. Thesis** Award by GULP, 2022 (500 €)  
Advisors: Profs. Agostino Dovier, Alessandro Dal Palù and Enrico Pontelli  
Thesis title: *“Planning while Believing to Know”*

01/2017–05/2018 **Master’s Degree in Computer Science**  
New Mexico State University, Las Cruces (NM), USA  
Final GPA: **3.88/4.00**  
Advisor: Prof. Enrico Pontelli  
Thesis title: *“EFP and PG-EFP: Epistemic Forward Planners in multi-agent domains”*

10/2013–12/2016 **Bachelor’s Degree in Computer Science**  
University of Parma, Parma, Italy  
Award: **Best UniPR Computer Science Student** Award by UNICT & Cisita, 2015  
Final mark: **109/110**  
Advisor: Prof. Alessandro Dal Palù  
Thesis title: *“Load distribution analysis in an MPI framework”*

09/2008–06/2013 **Liceo Scientifico G. Marconi**  
Parma, Italy  
Final mark: **96/100**



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01/2017– **Research Assistant**

07/2017

Employer: New Mexico State University, Las Cruces (NM), USA

Description: Studied, under Prof. Enrico Pontelli, the design of an epistemic forward planner with particular attention to heuristics for the solving process and optimizations for the underlying knowledge representation.

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## GRANTS & AWARDS

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UNICT & Cisita	Best UniPR Computer Science Student Award		2015
University of Udine	Ph.D. Scholarship	€ 15 343 <i>p.a.</i>	2018/2021
University of Parma & ACMI S.P.A.	Research Fellowship	€ 27 088 <i>p.a.</i>	2021/2022
Gruppo ricercatori e Utenti Logic Programming	Ph.D. Thesis Award	€ 500	2022
USA National Institute of Standards and Technology	Research Grant (sub-contract)	\$ 1 000	2023
The Pedro Arrupe, S.J., Center for Business Ethics	PRME/SDG Dashboard Research Fellow	\$ 9 000	2023/2024
USA National Institute of Standards and Technology	Research Grant (sub-contract)	\$ 10 000	2024

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## TEACHING/DIVULGATION

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### Teaching

CS 570 “ <i>Analysis of Algorithms</i> ”	New Mexico State University	2023
CS 487/519 “ <i>Applied Machine Learning I</i> ”	New Mexico State University	2023
CS 491/521 “ <i>Parallel Programming</i> ”	New Mexico State University	2023
CS 153/453 “ <i>Python Programming I</i> ”	New Mexico State University	2023
CS 151/451 “ <i>C++ Programming</i> ”	New Mexico State University	2023
DSS 770 “ <i>Advanced Python Programming</i> ”	Saint Joseph’s University	2023
DSS 693 “ <i>Advanced Python Programming</i> ”	Saint Joseph’s University	2023
DSS 615 “ <i>Python Programming</i> ”	Saint Joseph’s University	2023
DSS 315 “ <i>Business Intelligence &amp; Analytics: Concepts &amp; Practices</i> ”	Saint Joseph’s University	2023
“ <i>Typing in L<sup>A</sup>T<sub>E</sub>X</i> ”	University of Parma	2022/2023
“ <i>Algorithms and Data Structures</i> ” (Teaching Assistant)	University of Udine	2020/2021

### Conference Presentations

“ <i>H-EFP: Bridging Efficiency in Multi-Agent Epistemic Planning with Heuristics</i> ”	PRIMA 2024	20/11/2024
“ <i>An Explainable Multilingual Framework for Data Analysis Narration</i> ”	ICLP 2024	17/10/2024
“ <i>Multi-agent Epistemic Planning with Inconsistent Beliefs, Trust and Lies</i> ”	PRICAI 2021	09/11/2021
“ <i>Comprehensive Multi-Agent Epistemic Planning</i> ”	DC @ ICLP 2021	22/09/2021
“ <i>E-PDDL: A Standardized Way of Defining Epistemic Planning Problems</i> ”	KEPS @ ICAPS 2021	05/08/2021
“ <i>EFP 2.0: A Multi-Agent Epistemic Solver with Multiple e-State Representations</i> ”	ICAPS 2020	27/10/2020
“ <i>An ASP approach for arteries classification in CT-scans</i> ”	CILC 2020	15/10/2020
“ <i>Towards a Complete Characterization of Epistemic Reasoning</i> ”	CILC 2020	13/10/2020
“ <i>Design of a Solver for Multi-Agent Epistemic Planning</i> ”	ICLP 2019	24/09/2019
“ <i>Design of a Solver for Multi-Agent Epistemic Planning</i> ”	DC @ ICLP 2019	22/09/2019
“ <i>Non-Well-Founded Set Based Multi-Agent Action Language</i> ”	CILC 2019	27/08/2019

## Seminars and Talks

“Modeling Multi-Agent Epistemic Planning in ASP”	Declarative Programming class @ UniPR	10/12/2024
“Planning while Believing to Know”	Haub Innovation Speaker @ SJU	17/02/2023
“Modeling Multi-Agent Epistemic Planning in ASP”	Declarative Programming class @ UniPR	30/11/2022
“Thinking Fast and Slow in AI”	AI4HRC workshop @ UniUD	28/03/2022
“Planning while Believing to Know”	ES seminar @ FBK	14/02/2020
“Modeling Multi-Agent Epistemic Planning in ASP”	Automated Reasoning class @ UniUD	12/12/2020
“Epistemic Reasoning in Crime Reconstruction”	COST Action 17124 meeting	09/12/2019
“A Study on Fingerprint Inheritance through AI”	COST Action 17124 meeting	09/11/2019
“Ill-Founded Multi-Agent Epistemic Action Language”	iFM <sup>2</sup> seminar @ UniUD	11/06/2019
“Inheritance in Fingerprints”	GNCS-2019 workshop @ UniPR	04/06/2019
“Epistemic Planning”	GNCS-2019 workshop @ UniPR	03/06/2019

## Theses Co-Advisor

4 Master Theses, University of Udine • 18 Bachelor Theses, Universities of Udine & Parma

## SCIENTIFIC CONTRIBUTIONS

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### Projects Participation

GNCS-2023	“ARICsxAI: Automated Reasoning Interpretation of CT-Scans and xAI”
GNCS-2022	“InSANE: Investigating Sparse Algorithms in the post von Neumann Era”
GNCS-2020	“NoRMA: Automazione del Ragionamento Non-Monotono su Moderne Architetture Parallele”
GNCS-2019	“Logic Programming for Early Detection of Pancreatic Cancer”
PRID-ENCASE 2019	“Efforts in the Understanding of Complex Interacting Systems”

### Research Proposal/Grants Reviewer

Dutch Research Council (NWO), 2024 – Research Proposal

### Chair

PRIMA, 2024 – Session Chair • SYNERGY @KR, 2024 – Organizer & Chair • ICLP & LPNMR, 2024 – Autumn School on Logic Programming Organizer • ICLP & LPNMR, 2024 – Doctoral Consortium Organizer & Chair • ICLP, 2023 – Doctoral Consortium Organizer & Chair • ICLP 2023, Session Chair

### PC Member

IJCAI, 2025 • AAAI, 2025 • AIES, 2024 • ICLP, 2024 • IJCAI, 2024 • AAAI, 2024 • ICLP, 2023 • CILC, 2023 • IEEE ICTAI, 2022 • ACAIN, 2022 • OVERLAY, 2022 • CILC, 2022 • IJCAI, 2022 • IEEE ICTAI, 2021 • IJCAI, 2021

### Journal Reviews

International Journal of Computer Theory and Engineering (IJCTE), 2024 • Journal of Artificial Intelligence Research (JAIR), 2024 • Journal of Computer Languages (COLA), 2024 • The Journal of Supercomputing, 2024 • Journal of Logic and Computation (JLC), 2023 • Journal of Artificial Intelligence (AIJ), 2019

### Conference Reviews and Sub-Reviews

PADL, 2024 • AAMAS, 2023 • AIxIA, 2022 • CP, 2022 • IJCAI, 2022 • IEEE ICTAI, 2021 • IJCAI, 2021 • ECAI, 2020 • ICLP, 2020 • IEEE ICTAI, 2020 • IJCAI, 2020 • AIAA, 2019 • LPNMR, 2019

## SCIENTIFIC PUBLICATIONS

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1. Bertini, F., Palù, A. D., Fabiano, F., Formisano, A. & Zaglio, F. *Concept2Text: An Explainable Multilingual Rewriting of Concepts into Natural Language* in *Proceedings of the 39th Italian Conference on Computational Logic, Rome, Italy, June 26-28, 2024* (eds Angelis, E. D. & Proietti, M.) **3733** (CEUR-WS.org, 2024). <https://ceur-ws.org/Vol-3733/paper14.pdf>.
2. Pallagani, V. *et al.* *On the Prospects of Incorporating Large Language Models (LLMs) in Automated Planning and Scheduling (APS)* in *Proceedings of the Thirty-Fourth International Conference on Automated Planning and Scheduling, ICAPS 2024, Banff, Alberta, Canada, June 1-6, 2024* (eds Bernardini, S. & Muise, C.) (AAAI Press, 2024), 432–444. <https://doi.org/10.1609/icaps.v34i1.31503>.
3. Fabiano, F. *et al.* *Fast and Slow Planning*. *CoRR* abs/2303.04283. arXiv: 2303.04283. <https://doi.org/10.48550/arXiv.2303.04283> (2023).

4. Ganapini, M. B. *et al.* Value-based Fast and Slow AI Nudging in *Proceedings of the Workshop on Ethics and Trust in Human-AI Collaboration: Socio-Technical Approaches (ETHAICS 2023) co-located with 32nd International Joint Conference on Artificial Intelligence (IJCAI 2023) Macao, August 21, 2023., Macao, August 21, 2023* (eds Ganapini, M. B. *et al.*) **3547** (CEUR-WS.org, 2023). <https://ceur-ws.org/Vol-3547/paper6.pdf>.
5. Pallagani, V. *et al.* Plansformer Tool: Demonstrating Generation of Symbolic Plans Using Transformers in *Proceedings of the Thirty-Second International Joint Conference on Artificial Intelligence, IJCAI 2023, 19th-25th August 2023, Macao, SAR, China* (ijcai.org, 2023), 7158–7162. <https://doi.org/10.24963/ijcai.2023/839>.
6. Pallagani, V. *et al.* Understanding the Capabilities of Large Language Models for Automated Planning. *CoRR abs/2305.16151*. arXiv: 2305.16151. <https://doi.org/10.48550/arXiv.2305.16151> (2023).
7. (eds Pontelli, E. *et al.*) *Proceedings 39th International Conference on Logic Programming, ICLP 2023, Imperial College London, UK, 9th July 2023 - 15th July 2023* **385** (2023). <https://doi.org/10.4204/EPTCS.385>.
8. Soldà, D., Fabiano, F. & Dovier, A. ECHO: A hierarchical combination of classical and multi-agent epistemic planning problems. *J. Log. Comput.* **33**, 1804–1831. <https://doi.org/10.1093/logcom/exad036> (2023).
9. Bertini, F., Palù, A. D., Fabiano, F. & Iotti, E. CARING for xAI in *Proceedings of the 37th Italian Conference on Computational Logic, Bologna, Italy, June 29 - July 1, 2022* (eds Calegari, R., Ciatto, G. & Omicini, A.) **3204** (CEUR-WS.org, 2022), 47–60. [https://ceur-ws.org/Vol-3204/paper\\\_5.pdf](https://ceur-ws.org/Vol-3204/paper\_5.pdf).
10. Burigana, A. & Fabiano, F. *The Epistemic Planning Domain Definition Language (Short Paper) in Proceedings of the 10th Italian workshop on Planning and Scheduling (IPS 2022), RCRA Incontri E Confronti (RiCeReA 2022), and the workshop on Strategies, Prediction, Interaction, and Reasoning in Italy (SPIRIT 2022) co-located with 21st International Conference of the Italian Association for Artificial Intelligence (AIxIA 2022), November 28 - December 2, 2022, University of Udine, Udine, Italy* (eds Benedictis, R. D. *et al.*) **3345** (CEUR-WS.org, 2022). [https://ceur-ws.org/Vol-3345/paper5\\\_2497.pdf](https://ceur-ws.org/Vol-3345/paper5\_2497.pdf).
11. Fabiano, F. & Palù, A. D. An ASP approach for arteries classification in CT scans. *J. Log. Comput.* **32**, 331–346. <https://doi.org/10.1093/logcom/exab087> (2022).
12. Ganapini, M. B. *et al.* Combining Fast and Slow Thinking for Human-like and Efficient Decisions in Constrained Environments in *Proceedings of the 16th International Workshop on Neural-Symbolic Learning and Reasoning as part of the 2nd International Joint Conference on Learning & Reasoning (IJCLR 2022), Cumberland Lodge, Windsor Great Park, UK, September 28-30, 2022* (eds d'Avila Garcez, A. S. & Jiménez-Ruiz, E.) **3212** (CEUR-WS.org, 2022), 171–185. <https://ceur-ws.org/Vol-3212/paper12.pdf>.
13. Ganapini, M. B. *et al.* Combining Fast and Slow Thinking for Human-like and Efficient Navigation in Constrained Environments. *CoRR abs/2201.07050*. arXiv: 2201.07050. <https://arxiv.org/abs/2201.07050> (2022).
14. Ganapini, M. B. *et al.* Thinking Fast and Slow in AI: The Role of Metacognition in Machine Learning, Optimization, and Data Science - 8th International Workshop, LOD 2022, Certosa di Pontignano, Italy, September 19-22, 2022, Revised Selected Papers, Part II (eds Nicosia, G. *et al.*) **13811** (Springer, 2022), 502–509. [https://doi.org/10.1007/978-3-031-25891-6\\\_38](https://doi.org/10.1007/978-3-031-25891-6\_38).
15. Pallagani, V. *et al.* Plansformer: Generating Symbolic Plans using Transformers. *CoRR abs/2212.08681*. arXiv: 2212.08681. <https://doi.org/10.48550/arXiv.2212.08681> (2022).
16. Soldà, D., Fabiano, F. & Dovier, A. Epistemic Multiagent Reasoning with Collaborative Robots in *Proceedings of the 37th Italian Conference on Computational Logic, Bologna, Italy, June 29 - July 1, 2022* (eds Calegari, R., Ciatto, G. & Omicini, A.) **3204** (CEUR-WS.org, 2022), 32–46. [https://ceur-ws.org/Vol-3204/paper\\\_4.pdf](https://ceur-ws.org/Vol-3204/paper\_4.pdf).
17. Booch, G. *et al.* Thinking Fast and Slow in AI in *Thirty-Fifth AAAI Conference on Artificial Intelligence, AAAI 2021, Thirty-Third Conference on Innovative Applications of Artificial Intelligence, IAAI 2021, The Eleventh Symposium on Educational Advances in Artificial Intelligence, EAAI 2021, Virtual Event, February 2-9, 2021* (AAAI Press, 2021), 15042–15046. <https://doi.org/10.1609/aaai.v35i17.17765>.
18. Fabiano, F. *Comprehensive Multi-Agent Epistemic Planning in Proceedings 37th International Conference on Logic Programming (Technical Communications), ICLP Technical Communications 2021, Porto (virtual event), 20-27th September 2021* (eds Formisano, A. *et al.*) **345** (2021), 248–257. <https://doi.org/10.4204/EPTCS.345.41>.
19. Fabiano, F., Burigana, A., Dovier, A., Pontelli, E. & Son, T. C. Multi-agent Epistemic Planning with Inconsistent Beliefs, Trust and Lies in *PRICAI 2021: Trends in Artificial Intelligence - 18th Pacific Rim International Conference on Artificial Intelligence, PRICAI 2021, Hanoi, Vietnam, November 8-12, 2021, Proceedings, Part I* (eds Pham, D. N., Theeramunkong, T., Governatori, G. & Liu, F.) **13031** (Springer, 2021), 586–597. [https://doi.org/10.1007/978-3-030-89188-6\\\_44](https://doi.org/10.1007/978-3-030-89188-6\_44).
20. Fabiano, F. *et al.* E-PDDL: A Standardized Way of Defining Epistemic Planning Problems. *CoRR abs/2107.08739*. arXiv: 2107.08739. <https://arxiv.org/abs/2107.08739> (2021).
21. Fabiano, F. *et al.* Epistemic Planning in a Fast and Slow Setting in *Proceedings of the Thinking Fast and Slow and Other Cognitive Theories in AI, a AAAI 2022 Fall Symposium, Westin Arlington Gateway in Arlington, Virginia, November 17-19, 2022* (eds Ganapini, M. B. *et al.*) **3332** (CEUR-WS.org, 2021). <http://ceur-ws.org/Vol-3332/paper7.pdf>.



22. Ganapini, M. B. *et al.* *Combining Fast and Slow Thinking for Human-like and Efficient Navigation in Constrained Environments* in *Proceedings of the Thinking Fast and Slow and Other Cognitive Theories in AI, a AAAI 2022 Fall Symposium, Westin Arlington Gateway in Arlington, Virginia, November 17-19, 2022* (eds Ganapini, M. B. *et al.*) **3332** (CEUR-WS.org, 2021). <http://ceur-ws.org/Vol-3332/paper10.pdf>.
23. Ganapini, M. B. *et al.* Thinking Fast and Slow in AI: the Role of Metacognition. *CoRR* **abs/2110.01834**. arXiv: [2110.01834](https://arxiv.org/abs/2110.01834). <https://arxiv.org/abs/2110.01834> (2021).
24. Booch, G. *et al.* Thinking Fast and Slow in AI. *CoRR* **abs/2010.06002**. arXiv: [2010.06002](https://arxiv.org/abs/2010.06002). <https://arxiv.org/abs/2010.06002> (2020).
25. Burigana, A., Fabiano, F., Dovier, A. & Pontelli, E. Modelling Multi-Agent Epistemic Planning in ASP. *Theory Pract. Log. Program.* **20**, 593–608. <https://doi.org/10.1017/S1471068420000289> (2020).
26. Burigana, A., Fabiano, F., Dovier, A. & Pontelli, E. Modelling Multi-Agent Epistemic Planning in ASP. *CoRR* **abs/2008.03007**. arXiv: [2008.03007](https://arxiv.org/abs/2008.03007). <https://arxiv.org/abs/2008.03007> (2020).
27. Fabiano, F. *Towards a Complete Characterization of Epistemic Reasoning: the Notion of Trust* in *Proceedings of the 35th Italian Conference on Computational Logic - CILC 2020, Rende, Italy, October 13-15, 2020* (eds Calimeri, F., Perri, S. & Zumpano, E.) **2710** (CEUR-WS.org, 2020), 21–35. <https://ceur-ws.org/Vol-2710/paper2.pdf>.
28. Fabiano, F., Burigana, A., Dovier, A. & Pontelli, E. *EFP 2.0: A Multi-Agent Epistemic Solver with Multiple E-State Representations* in *Proceedings of the Thirtieth International Conference on Automated Planning and Scheduling, Nancy, France, October 26-30, 2020* (eds Beck, J. C., Buffet, O., Hoffmann, J., Karpas, E. & Sohrabi, S.) (AAAI Press, 2020), 101–109. <https://ojs.aaai.org/index.php/ICAPS/article/view/6650>.
29. Fabiano, F. & Palù, A. D. *An ASP Approach for Arteries Classification in CT-scans* in *Proceedings of the 35th Italian Conference on Computational Logic - CILC 2020, Rende, Italy, October 13-15, 2020* (eds Calimeri, F., Perri, S. & Zumpano, E.) **2710** (CEUR-WS.org, 2020), 312–326. <https://ceur-ws.org/Vol-2710/paper20.pdf>.
30. Fabiano, F. *Design of a Solver for Multi-Agent Epistemic Planning* in *Proceedings 35th International Conference on Logic Programming (Technical Communications), ICLP 2019 Technical Communications, Las Cruces, NM, USA, September 20-25, 2019* (eds Bogaerts, B. *et al.*) **306** (2019), 403–412. <https://doi.org/10.4204/EPTCS.306.54>.
31. Fabiano, F., Riouak, I., Dovier, A. & Pontelli, E. *Non-Well-Founded Set Based Multi-Agent Epistemic Action Language* in *Proceedings of the 34th Italian Conference on Computational Logic, Trieste, Italy, June 19-21, 2019* (eds Casagrande, A. & Omodeo, E. G.) **2396** (CEUR-WS.org, 2019), 242–259. <https://ceur-ws.org/Vol-2396/paper38.pdf>.
32. Le, T., Fabiano, F., Son, T. C. & Pontelli, E. *EFP and PG-EFP: Epistemic Forward Search Planners in Multi-Agent Domains* in *Proceedings of the Twenty-Eighth International Conference on Automated Planning and Scheduling, ICAPS 2018, Delft, The Netherlands, June 24-29, 2018* (eds de Weerd, M., Koenig, S., Röger, G. & Spaan, M. T. J.) (AAAI Press, 2018), 161–170. <https://aaai.org/ocs/index.php/ICAPS/ICAPS18/paper/view/17733>.