

# Antonio Di Stasio

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## Personal Information

**Name & Surname** Antonio Di Stasio

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## Research Interests

**Topics** Game Theory, Parity Games, Formal Aspects of System Specification, Verification, Synthesis, and Automated Planning.

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## Experiences

**Date (from - to)** Jan 3, 2023 -present

**Qualification** Senior Research Assistant

**Project** WhiteMech

**Institute** "University of Oxford

**Advisor** Prof. Dr. Giuseppe De Giacomo

**Date (from - to)** July 1, 2020 - Dec 2022

**Qualification** Post-doctoral researcher

**Project** WhiteMech

**Institute** "La Sapienza" University of Rome

**Advisor** Prof. Dr. Giuseppe De Giacomo

**Date (from - to)** June 1, 2019 - May 31, 2020

**Qualification** Post-doctoral researcher

**Project** Metodi e tecniche di supporto alla creatività digitale

**Institute** "La Sapienza" University of Rome

**Advisor** Prof. Dr. Massimo Mecella

**Date (from - to)** Aug 3, 2015 - Oct 31, 2015

**Qualification** Research Scholarship

**Project** Formal methods based on game theory

**Institute** University of Naples "Federico II", Italy

**Supervisor** Prof. Aniello Murano

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## Former Positions

**Date (from - to)** November 5, 2017 - May 21, 2018

**Qualification** Visiting Scholar

**Department** Department of Computer Science  
**Institute** Rice University, Houston, Texas, USA  
**Supervisor** Prof. Moshe Y. Vardi

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## Education Degrees

**Date (from - to)** November 2015 - February 2019  
**Qualification** Doctorate (Ph.D.)  
**Field** Computer Science  
**Institute** University of Naples "Federico II", Italy  
**Supervisor** Prof. Aniello Murano

**Date (from - to)** 2011 - 2015  
**Degree** Master Degree in Computer Science (Class LM-18)  
**Institute** University of Naples "Federico II", Italy  
**Obtained on** March 16th, 2015  
**Final mark** 110/110 cum laude  
**Thesis** An Accelerated Algorithm for log-color parity games  
**Supervisor** Prof. Aniello Murano

**Date (from - to)** 2006 - 2011  
**Degree** Bachelor Degree in Computer Science (Class 26)  
**Institute** University of Naples "Federico II", Italy  
**Obtained on** March 23rd, 2011  
**Final mark** 106/110  
**Thesis** Studio, elaborazione ed implementazione di un algoritmo di ranking per giochi di parità  
**Supervisor** Prof. Aniello Murano

[High school diploma](#)

**Date (from - to)** 2001 - 2006  
**Degree** Industrial Technical Institute Diploma  
**Institute** Istituto Tecnico Industriale A.Righi VIII - Naples, Italy  
**Obtained on** July 4th, 2006  
**Final mark** 82/100

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## Technology Skills

**Languages:** C/C++, Java, OCaml  
**Markup Languages:** XML, HTML, Latex  
**Operative Systems:** Windows, Linux, Mac OS

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## Languages

**Mother tongue** Italian  
**Foreign language** English

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## Publications

- [1] Antonio Di Stasio, Paolo Domenico Lambiase, Vadim Malvone, and Aniello Murano. Dynamic Escape Game (Demonstration). In *AAMAS 2018*, pages 1806–1808, 2018.
- [2] Antonio Di Stasio, Aniello Murano, and Moshe Y. Vardi. Solving Parity Games: Explicit vs Symbolic. In *CIAA 2018*, pages 159–172, 2018.
- [3] Giuseppe De Giacomo, Aniello Murano, Sasha Rubin, and Antonio Di Stasio. Imperfect-Information Games and Generalized Planning. In *IJCAI 2016*, pages 1037–1043, 2016.
- [4] Antonio Di Stasio, Aniello Murano, Giuseppe Perelli, and Moshe Y. Vardi. Solving Parity Games Using an Automata-Based Algorithm. In *CIAA 2016*, pages 64–76, 2016.
- [5] Antonio Di Stasio, Aniello Murano, Vincenzo Prignano, and Loredana Sorrentino. Solving Parity Games in Scala. In *FACS 2014*, pages 145–161, 2014.
- [6] Giuseppe De Giacomo, Antonio Di Stasio, Francesco Fuggitti, and Antonio Di Stasio. Pure-past linear temporal and dynamic logic on finite traces. In *IJCAI 2020*, pages 4959–4965.
- [7] Giuseppe De Giacomo, Antonio Di Stasio, Moshe Y. Vardi, and Shufang Zhu. Two-stage technique for ltl synthesis under LTL assumptions. In *KR 2020*, pages 304–314, 2020.
- [8] Giuseppe De Giacomo, Antonio Di Stasio, Giuseppe Perelli, and Shufang Zhu. Synthesis with mandatory stop actions. In *KR 2021*, pages 237–246, 2021.
- [9] Giuseppe De Giacomo, Antonio Di Stasio, Lucas M. Tabajara, Moshe Y. Vardi, and Shufang Zhu. Finite-trace and generalized-reactivity specifications in temporal synthesis. In *IJCAI 2021*, pages 1852–1858, 2021.
- [10] Antonio Di Stasio. LTLf synthesis under environment specifications. In *ICTCS 2022*, pages 40–46, 2022.
- [11] Giuseppe De Giacomo, Suguman Bansal Antonio Di Stasio, Yong Li, Moshe Y. Vardi, and Shufang Zhu. Compositional Safety LTL Synthesis. In *VSTTE 2022*, pages 1–19, 2022.
- [12] Antonio Di Stasio. Explicit and symbolic approaches for parity games (short paper). In *SPIRIT 2022*, 2022.

- [13] Davide Catta., Antonio Di Stasio., Jean Leneutre., Vadim Malvone., and Aniello Murano. A game theoretic approach to attack graphs. In *ICAART 2023*, pages 347–354, 2023.
- [14] Giuseppe De Giacomo, Antonio Di Stasio, Lucas M. Tabajara, Moshe Y. Vardi, and Shufang Zhu. Finite-trace and generalized-reactivity specifications in temporal synthesis. *Formal Methods in System Design (2023)*, 2023.

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## Scientific Communications

### Conference talks

**Title** Explicit and Symbolic Approaches for Parity Games  
**Date** November 29, 2022  
**Event** SPIRIT 2022, Udine

**Title** Compositional Safety LTL Synthesis  
**Date** October 17, 2022  
**Event** VSTTE 2022, Trento

**Title** LTLf Synthesis Under Environment Specifications  
**Date** September 7, 2022  
**Event** ICTCS 2022, Rome

**Title** LTLf Synthesis Under Environment Specifications (Invited Talk)  
**Date** August 31, 2022  
**Event** VardiFest 2022, Haifa, Israel

**Title** Two-Stage Technique for LTLf Synthesis Under LTL Assumptions  
**Date** September 15, 2020  
**Event** Highlights 2021, Online

**Title** Two-Stage Technique for LTLf Synthesis Under LTL Assumptions  
**Date** September 18, 2020  
**Event** KR 2020, Online

**Title** Solving Parity Games: Explicit vs Symbolic  
**Date** July 8, 2018  
**Event** 6th International Workshop on Strategic Reasoning (SR 2018), Oxford, UK

**Title** Solving Parity Games Using An Automata-Based Algorithm  
**Date** July 22, 2016

**Event** 21st International Conference on Implementation and Application of Automata (CIAA 2016), Seoul, South Korea

**Title** Solving parity games in scala

**Date** October 10, 2014

**Event** Formal Aspects of Component Software (FACS 2014), Bertinoro, Italy

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## Event Organization

**Co-Chair** On the Effectiveness of Temporal Logics on Finite Traces in AI

**Organizing Committee member** ICTCS 2017, CILC 2017

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## Community Services

**Activities** Program Committee Member: ECAI 2020, AAAI 2021, IJCAI Survey Track 2021, AAMAS 2021, AAMAS 2022, IJCAI Survey Track 2021, IJCAI Survey Track 2022, IJCAI 2022 Main Track, KR 2023, ECAI 2023  
Subreviewer: MFCS 2017, ICTCS 2017, AAMAS 2018, IJCAI 2018  
Journal Reviewer: Fundamenta Informaticae

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## Teaching Activities

**Course** Game-Theoretic Approach to Planning and Synthesis

**Date (from - to)** 24-28 July 2023

**Event** ESSAI 2023 (Summer School)

**Course** Game-Theoretic Approach to Planning and Synthesis (PhD Course)

**Date (from - to)** 4-8 July 2022

**Event** PhD Course - Sapienza University of Rome

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## Teaching Assistant

**Tutor for the course** Foundations of Self-Programming Agents

**Date (from - to)** January 2023 - March 2023, Hilary Term

**Institute** Department of Computer Science, University of Oxford

**Principal Instructor** Prof. Giuseppe De Giacomo

**Tutor for the course** Programming - Lab.

**Date (from - to)** September 2018 - December 2018

**Institute** University of Naples "Federico II", Italy

**Principal Instructor** Prof. Aniello Murano

**Tutor for the course** Algorithms and data structures - Lab.

**Date (from - to)** March 2017 - October 2018

**Institute** University of Naples "Federico II", Italy

**Principal Instructor** Prof. Aniello Murano

**Tutor for the course** Mathematics  
**Date (from - to)** November 2016 - February 2017  
**Institute** University of Naples "Federico II", Italy  
**Principal Instructor** Prof. Livia D'Apuzzo  
**Tutor for the course** Algorithms and data structures - Lab.  
**Date (from - to)** March 2016 - February 2017  
**Institute** University of Naples "Federico II", Italy  
**Principal Instructor** Prof. Aniello Murano

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## References

**Reference** Prof. Aniello Murano  
**Institute** University of Naples "Federico II", Italy  
**Email** murano@na.infn.it

**Reference** Prof. Moshe Y. Vardi  
**Institute** Rice University, Houston, TX, USA  
**Email** vardi@cs.rice.edu

**Reference** Prof. Giuseppe De Giacomo  
**Institute** University of Oxford, UK  
**Email** giuseppe.degiacomo@cs.ox.ac.uk