

Antonio Di Stasio

Personal Information

Name & Surname Antonio Di Stasio

Research Interests

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

Experiences

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

Qualification Senior Research Associate

Project Advanced ERC "WhiteMech"

Institute Department of Computer Science, University of Oxford

Advisor Prof. Giuseppe De Giacomo

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

Qualification Post-doctoral researcher

Project Advanced ERC "WhiteMech"

Institute DIAG, Sapienza University of Rome

Advisor Prof. Giuseppe De Giacomo

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

Qualification Post-doctoral researcher

Project Methods and techniques to support digital creativity

Institute DIAG, Sapienza University of Rome

Advisor Prof. 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

External Activities

Date (from - to) September - present

Activity Research Member of Common Room, Kellogg College

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

Education Degrees

Date (from - to) November 2015 - February 2019
Qualification Doctorate (Ph.D.)
Field Mathematical and 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

Technology Skills

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

Languages

Mother tongue Italian
Foreign language English

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 ltlf 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.
- [15] Benjamin Aminof, Giuseppe De Giacomo, Antonio Di Stasio, Hugo Francon, Sasha Rubin, and Shufang Zhu. Ltlf synthesis under environment specifications for reachability and safety properties. In *EUMAS 2023*, 2023.

Scientific Communications

Conference talks

- Title** LTLf Synthesis Under Environment Specifications (Invited Talk)
Date October, 2023
Event Brown University, Providence, USA

- Title** LTLf synthesis under environment specifications for reachability and safety properties
Date September 15, 2023
Event EUMAS 2023, Napoli, Italy

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

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

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

- 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

Event Organization

Chair On the Effectiveness of Temporal Logics on Finite Traces in AI (AAAI Spring Symposium Series)

Organizing Committee member Italian Conference on Theoretical Computer Science (ICTCS), 2017, Italian Conference on Computational Logic (CILC), 2017

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

Teaching Activities (Lecturer)

Course Game-Theoretic Approach to Planning and Synthesis
Date (from - to) 24-28 July 2023
Institute University of Ljubljana
Event European Summer School on Artificial Intelligence 2023

Course Game-Theoretic Approach to Planning and Synthesis
Date (from - to) 4-8 July 2022
Institute Sapienza University & ICT-48 TAILOR
Type PhD Course

Class Tutor

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

Teaching Assistant

Course Programming - Lab.

Date (from - to) September 2018 - December 2018

Institute University of Naples "Federico II", Italy

Principal Instructor Prof. Aniello Murano

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

Course Mathematics

Date (from - to) November 2016 - February 2017

Institute University of Naples "Federico II", Italy

Principal Instructor Prof. Livia D'Apuzzo

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

References

Reference Prof. Aniello Murano

Role Professor in Computer Science

Institute University of Naples "Federico II", Italy

Email murano@na.infn.it

Reference Prof. Giuseppe De Giacomo

Role Professor of Computer Science

Institute Department of Computer Science, University of Oxford, UK

Email giuseppe.degiacomo@cs.ox.ac.uk

Reference Prof. Moshe Y. Vardi

Role University Professor

Institute Rice University, Houston, TX, USA

Email vardi@cs.rice.edu