

Curriculum Vitae

NICOLA GATTI

Highlights. Nicola Gatti is an associate professor of Computer Science and Engineering in the Department of Electronics, Information, and Bioengineering at Politecnico di Milano. His research activities are grounded in the Artificial Intelligence area. His main achievements come from *algorithmic game theory*, *allocation problems and incentives*, *algorithmic social choice theory*, *multiagent learning*, and *online learning*. His contributions to these fields range from new algorithms and theoretical results to experimental analyses, implemented systems, and innovative real-world applications of AI techniques. He published more than 160 peer-reviewed archival research papers. More precisely, he published in the premier AI journals *Artificial Intelligence* (8) and *Journal of Artificial Intelligence Research* (3), as well as in the premier AI conferences AAMAS (33), AAAI (29), IJCAI (9), NeurIPS (6), ECAI (5), ICML (4), UAI (3), and ACM EC (3). Moreover, he published AI results in some of the most prestigious venues for computer science, microeconomics, and computer engineering, including *Journal of the ACM*, *Algorithmica*, *Games and Economic Behavior*, *IEEE Transactions on Mobile Computing*, *IEEE Transactions on Information Technologies in Biomedicine*, *IEEE Transactions on Dependable and Secure Computing*, *IEEE Transactions on Wireless Communication*, *WWW*, *KDD*. His research activities received several awards, including the 2011 AIXIA Marco Somalvico Award as the best Italian young researcher in AI, the best paper award in several conferences, including the prestigious NeurIPS 2020 and Cooperative AI 2021 funded by Google Deepmind. In 2021 he was elected as a EurAi Fellow (top <3% of the European AI scientists) and awarded at IJCAI 2022. He is one of the ten spoke coordinators of the PNRR-PE project (FAIR) on AI. Specifically, he coordinates the spoke on machine learning with a budget of 12 MEuros. He is/was the principal investigator of a number of research/industrial projects focusing on AI methods and technologies that led to the deployment of longstanding industrial applications (*e.g.*, dynamic pricing for *lastminute.com*). He co-founded two spin-offs (WayNaute and ML cube), offering ICT solutions with advanced optimization and machine learning algorithms. In particular, Forbes nominated ML cube as one of the top 10 Italian AI startups in 2022. At Politecnico di Milano, he is the chair of the *Excellence Programme in Scientific Research* and co-director of the *AI Research and Innovation Center*, *ELLIS Unit Milan*, and *Observatory in AI*. He is a board member of the *Italian Laboratory of Artificial Intelligence and Intelligent Systems* and served the international AI community in various ways, including being a board member of the *International Foundation for Autonomous Agents and Multiagent Systems* (IFAAMAS) and of *Italian Association for Artificial Intelligence* (AIXIA).

Personal Information

Born December 18, 1976, Milano, Italy.
 Academic Position Associate Professor of Computer Science and Engineering.
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Positions

2015 – present **Associate Professor**, Politecnico di Milano.
 2016 – 2022 **Board Member** of the International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS).
 2017 – present **Co-Director** (and **Founder**) of the Italian Observatory on Artificial Intelligence.
 2018 – present **Chair** of the Excellence Programme in Scientific Research, Politecnico di Milano.
 2019 – present **Member of the Board of Directors** of the Italian National Artificial Intelligence and Intelligent Systems (AI&IS) Laboratory.
 2019 – 2021 **Member of the Board of Directors** of the Associazione Italiana per l'Intelligenza Artificiale (AIxIA).
 2022 – 2024 **Member of the Industrial Board** of the Associazione Italiana per l'Intelligenza Artificiale (AIxIA).
 2021 – present **Co-Director** (and **Founder**) of the AI Research and Innovation Center (JRC), Politecnico di Milano.
 2021 – present **Co-Director** (and **Founder**) of the Ellis Unit at Milan.

Other Academic and Research Appointments

2006 – 2015 **Assistant Professor**, Politecnico di Milano.
 2013 **Visiting Researcher**, Carnegie Mellon University, Pittsburgh, USA, June.
 2005 – 2006 **PostDoctoral Researcher**, Politecnico di Milano.
 2002 – 2005 **Ph.D. Student**, Politecnico di Milano.

Main Research Areas

His research interests mainly focus on the following AI fields:

- **Algorithmic game theory:** non-cooperative games and equilibrium problems in multi-agent systems;
- **Allocation problems and incentives:** auctions and mechanism design;
- **Algorithmic social choice theory:** voting and manipulation;
- **Multi-agent learning:** learning algorithms and evolutionary dynamics in multi-agent systems;
- **Online learning:** multi-armed bandits and combinatorial optimization.

Awards and Recognitions

2021 **EurAi Fellow** (top <3% of the European AI scientists).
 2021 **Best paper award** at the Cooperative AI 2021 – with Luca Carminati, Federico Cacciamani, Marco Ciccone.

- 2020 **Best paper award** (top 0.03%) at the Conference on Neural Information Processing Systems (NeurIPS) 2020 – with Andrea Celli, Gabriele Farina, and Alberto Marchesi (they are all former students of Nicola Gatti).
- 2020 **Spotlight presentation** (top 2%) at the Conference on Neural Information Processing Systems (NeurIPS) 2020 – with Matteo Castiglioni, Andrea Celli, Alberto Marchesi (they are all former students of Nicola Gatti).
- 2011 **Best young Italian researcher** in Artificial Intelligence award (AIxIA Marco Somalvico award).
- 2010 **Best paper award** at IEEE International Conference on Ultra-Modern Telecommunications (ICUMT) – with Mattia Monga and Sabrina Sicari.
- 2009 **Best student paper award** at ACM/IEEE International Conference on Intelligent Agent Technologies (IAT) – with Nicola Basilico, Sofia Ceppi, Thomas Rossi, and Francesco Amigoni.
- 2004 **Outstanding paper award** at the European Starting AI Researchers' Symposium (STAIRS) – single-author paper.

Awards and Recognitions of Supervised M.Sc. or Ph.D. Students

- 2021 Alberto Marchesi was awarded **Honours** for his Ph.D. thesis in Artificial Intelligence (EurAi).
- 2020 Tommaso Bianchi was awarded **Honours** for his M.Sc. thesis in Artificial Intelligence (AIxIA).
- 2020 Alberto Marchesi was awarded the **Dimitri N. Chorafas Award**.
- 2017 Giuseppe De Nittis was awarded the **Dimitri N. Chorafas Award**.
- 2017 Andrea Celli was awarded the **Best Italian M.Sc. thesis** in Artificial Intelligence award (AIxIA).
- 2015 Marco Rocco was awarded the **Dimitri N. Chorafas Award**.
- 2015 Fabio Panozzo was awarded the **Best Italian Ph.D. thesis** in Artificial Intelligence award (AIxIA).
- 2015 Giuseppe De Nittis was awarded the **Best Italian M.Sc. thesis** in Artificial Intelligence award (AIxIA).
- 2012 Sofia Ceppi was awarded **Honours** for her Ph.D. thesis in Artificial Intelligence (AIxIA).
- 2012 Giorgio Patrini and Marco Rocco were awarded **Honours** for their M.Sc. thesis in Artificial Intelligence (AIxIA).
- 2012 Sofia Ceppi was awarded the **Yahoo! Key Scientific Challenges Program Award**.
- 2011 Sofia Ceppi was awarded the **Google Anita Borg Memorial Award**.

Scientific Production and Metrics

- **Scientific Productivity:** 165 publications¹ (147 entries on Scopus², 87 co-authors according to Scopus, 4 single-author papers):
 - Author/Co-author of 131 publications in peer-reviewed conferences (from DBLP) including 33 AAMAS, 29 AAI, 9 IJCAI, 6 NeurIPS, 5 ECAI, 4 ICML, 3 UAI, 3 ACM EC, 2 ICRA, 1 WWW, 1 KDD.

¹ <https://dblp.uni-trier.de/pid/g/NicolaGatti.html>.

² <https://www.scopus.com/authid/detail.uri?authorId=6602167825>.

- Author/Co-author of **34** scientific publications in peer-reviewed journals including **8 Artificial Intelligence Journal**, **3 Journal of Artificial Intelligence Research**, **1 Journal of the ACM**, **1 Algorithmica**, **1 IEEE Transactions on Mobile Computing**, **1 IEEE Transactions on Wireless Communication**, **1 IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans** retitled **IEEE Transactions on Systems, Man, and Cybernetics: Systems** since 2012, **1 IEEE Transactions on Information Technology in Biomedicine** retitled **IEEE Journal of Biomedical and Health Informatics** since 2012, **1 Theoretical Computer Science**, **1 IEEE Transactions on Secure and Dependable Computing**, **1 Integrated Computer-Aided Engineering**, **1 Artificial Intelligence in Medicine**, **1 Games and Economic Behavior**, **1 International Journal of Game Theory**).
- **Publication Impact:**

Based on Google Scholar ³	<i>b</i> -index 31	citations 3534
Based on Scopus	<i>b</i> -index 18	citations 1454

Main Scientific Achievements

Selected results of his scientific achievements in form of short abstracts are listed below.

- **Algorithmic game theory:** He provided ground breaking results in the field of equilibrium computation. In particular, he provided the fastest algorithms for the computation of an exact or approximate Nash equilibrium in two-player general-sum non-structured games, which has been a central problem in the computational study of non-cooperative games for many years [C54]. He also investigated, for the first time, re-optimization complexity of computing a Nash equilibrium with two-player games [C38], and he showed that in two-player non-structured games strong Nash equilibria with mixed strategies are possible only in degenerate games that are equivalent to zero-sum games [J1]. He studied Nash equilibrium refinements, providing a complete characterization of Quasi Perfect equilibrium [J3] and providing algorithms for the verification of Sequential equilibria and Quasi-Perfect equilibria [C52]. Major results have also been provided in the field of Stackelberg equilibrium. He provided a complete characterization of the equilibrium computation problem as the number of leaders and/or followers varies, as ties are broken in favour or against the leader, and as the structure of the games varies (non-structured [J4], polymatrix [J5, C25], and congestion [J6, C28, C36]). He has been the first researcher to refine Stackelberg equilibria in terms of perfection when applied to sequential games and to study algorithms for this problem [C17, C27]. Furthermore, he worked on the application of algorithms to real-world applications, such as, *e.g.*, negotiation and bargaining among software bots [J15, J19], and security games and patrolling with autonomous robots [J9, J17, C63, S4], also providing some practical demonstrations [C60].
- **Allocation problems and incentives:** He investigated the problem of designing allocation algorithms that are computationally efficient (*i.e.*, poly-time computable) and economically stable (*i.e.*, incentive-compatible). He mainly worked on allocation problems in online advertising scenarios, in which some ads need to be allocated on a given set of slots. His work moved toward two main directions. The first direction is the design of accurate models describing the behaviour of the user and the study of the computational complexity of finding optimal allocations [J7, C39, C49]. He also evaluated the inefficiency due to the bidders' selfishness, providing upper and lower bounds on the price of anarchy and price of stability [J10, C42]. The second direction is the design of algorithms for new scenarios of online advertising. In particular, he provided the first model for mobile advertising, in which a user is supposed to move in a physical environment (*e.g.*, a city) and can receive multiple ads on her/his device with the attention that monotonically decreases in the number of received ads [C45], and the first model for federated advertising settings [C56]. Finally, he also investigated pricing problems in online environments [C6].
- **Algorithmic social choice theory:** He investigated the problem of manipulating elections by persuasion and social influence. In particular, he focused on the formal framework of Bayesian persuasion, where one or multiple agents get (senders) information on the state of the nature and

³ <https://scholar.google.it/citations?user=j-HrYREAAAAJ&hl=it>.

reveal partial information to some receivers to induce them to follow some desired behaviour. He applied this model to voting and electoral settings. The goal is to investigate the computational complexity (lower and upper bound) of the problem of finding optimal signalling schemes for the senders. He provided the conditions under which the problem is affordable in practice and when it is not, showing that optimal solutions cannot be computed or approximated in polynomial time even in basic settings [C1, C11, S5]. However, he showed that many electoral problems admit efficient approximation algorithms under mild assumptions, included the district-based model (*i.e.*, the model used in US and UK) [C7]. He provided important results in the case of Bayesian congestion games [C8] as well as in the case of sequential games [C18]. He also investigated the problems of spreading influence on a social network and maximizing it by exploiting various actions such as, *e.g.*, making seeding and modifying the social graph. In particular, making seeding corresponds to buying nodes of the social graph (*e.g.*, testimonials) to spread influence over the social graph given a finite budget, whereas the graph can be modified by adding (*e.g.*, by exploiting advertising-like tools) or removing ads (*e.g.*, hiding content). He showed that social influence maximization is computationally hard when edges can be added and/or removed even in simple graph structures (*e.g.*, lines) and that approximations cannot be found in polynomial time [C12, S3]. Furthermore, he showed that the re-optimization version of the problem (*i.e.*, when a solution is already available and one is looking for the optimal solution of a locally modified version of the problem) is computationally hard. He also showed that this problem is computationally hard even when the budget may be unbounded.

- **Multi-agent learning:** He investigated the problem of designing learning algorithms for multi-agent settings. He mainly focused on reinforcement learning algorithms and no-regret algorithms. In particular, he applied reinforcement learning algorithms to sequential two-player general-sum games, providing a clear characterization of the mean learning dynamics by evolutionary dynamics models [C45]. He also extended several evolutionary dynamics known in the field of evolutionary game theory to the case of extensive-form games [C43, C47]. Furthermore, he studied no-regret algorithms for games with two or multiple players with zero- or general-sum payoffs converging to coarse correlated equilibria and extensive-form correlated equilibria [C10, C22]. He provided seminal works on adversarial team games, where a team of players faces against a single opponent or a team of opponents. His algorithms, based on fictitious play, demonstrated three order of magnitude faster than the previous state of the art and provide theoretical guarantees to converge to the optimal solution [C30]. Recently, he worked on Deep learning approaches for multi-agent learning problems for adversarial team games [C4].
- **Online learning:** He investigated combinatorial optimization applied to multi-armed bandit problems along with various directions. He investigated how learning can affect the economic stability (*i.e.*, incentive compatibility) of mechanisms such as auctions [J13, C53]. A well-known example is represented by ad auctions, where the ad platform needs to learn the qualities of the ads. He investigated the design of online learning algorithms for pricing and online advertising and applied them to real-world settings. In particular, the dynamic pricing algorithms presented in [J8] and [C34] have been deployed by lastminute.com company and generated a revenue larger than 30 MEuro per year since 2015. The algorithms for advertising joint bid/budget optimization and target optimization presented in [C26] and [C23], respectively, have been deployed by [Multimedia Marketing Group](http://MultimediaMarketingGroup.com) company to optimize advertising campaign for about 5000 Euro per day since July 2017. Furthermore, he studied in these cases how to optimize the trade-off between exploration and exploitation [C15, S2], and how to deal with non-stationary settings [J2] or a continuous set of arms [C39]. He provided the seminal paper on bandit problems with uncertainty over the parameters of the constraints (*e.g.*, on the Return on the Investment), showing that no algorithm can guarantee a sublinear regret and a sublinear number of violations of the constraints even in a non-combinatorial problem [S6]. This algorithm was deployed in a real-world application in the last 6 months in 2020 by [AdsHotel](http://AdsHotel.com) company. He also studied techniques for probably approximately correct learning for strategic scenarios [C14] (used by [Italian Navy](http://ItalianNavy.com) in warship scenarios) and adversarial online learning in Bayesian persuasion [C9].

Scientific Collaborations

He collaborates with several researchers working in Italian Universities, *e.g.*, Marcello Restelli and Francesco Trovò (Politecnico di Milano), Diodato Ferraioli (Università di Salerno), Nicola Basilico (Università degli Studi di Milano). He also has international collaborations with, *e.g.*:

- **Andrea Celli** (Facebook CORE Data Science, UK): algorithms and complexity for equilibrium computation, no-regret learning (13 papers co-authored).
- **Tuomas Sandholm** (Carnegie Mellon University, USA): equilibrium computation for strong Nash equilibrium, Pareto efficiency, Stackelberg equilibrium, Nash equilibrium (10 papers co-authored).
- **Stefano Coniglio** (University of Southampton, UK): operations research techniques for equilibrium computation (9 papers co-authored).
- **Bo An** (Nanyang Technological University, Singapore): bargaining games (5 papers co-authored)
- **Enrico Gerding** (University of Southampton, UK): ad auctions (5 papers co-authored).
- **Alessandro Lazaric** (INRIA Lille Nord, Facebook Paris, France): online learning in ad auctions (5 papers co-authored).
- **Victor Lesser** (University of Massachusetts at Amherst, USA): bargaining games (5 papers co-authored).
- **Carmine Ventre** (King's College, UK): algorithmic mechanism design (3 papers co-authored).
- **Christian Kroer** (Columbia University, USA): Stackelberg games (2 papers co-authored)
- **Nicholas Jennings** (Imperial College London, UK): security games (1 paper co-authored).
- **Bernhard von Stengel** (London School of Economics, UK): strong Nash equilibrium (1 paper co-authored).

Main Invited Talks

- 2022 **Invited talk** at The Workshop on Algorithmic Game Theory, Mechanism Design, and Learning – Turin, Italy.
- 2022 **Invited talk** at The AI Institute of the SKOMA Business School – Sophia Antipolis, France.
- 2022 **Invited talk** at The First Workshop of the ELLIS Milan Unit – Milan, Italy.
- 2022 **Invited talk** at The Interactive Causal Learning Conference – Washington, USA.
- 2021 **Invited talk** at The International Joint Conference on Artificial Intelligence (IJCAI) – Sister Conference Best Paper Track session – Montreal, Canada.
- 2021 **Invited talk** at The International Joint Conference on Artificial Intelligence (IJCAI) – Journal Track session – Montreal, Canada.
- 2021 **Invited talk** at The ACM Conference on Economics and Computation (EC) – Highlights Beyond EC plenary session – Budapest, Hungary.
- 2021 **Invited talk** at explAI Workshop – XAI, causality, and persuasion.
- 2020 **Invited talk** at AI Forum Live (online).
- 2020 **Invited talk** at the NATO CA2X2 Forum (online).
- 2019 **Invited talk** at AI Forum, Milano, Italy.
- 2017 **Invited talk** at the Workshop on Search Games and Rendezvous (London School of Economics), London, UK.
- 2017 **Invited talk** at the Italian Workshop on Algorithmic Game Theory, L'Aquila, Italy.
- 2015 **Invited talk** at the LABEX CIMI Pluridisciplinary Workshop on Game Theory, Toulouse, France.
- 2012 **Invited talk** at the International Conference on Bio-Inspired Models of Network, Information, and Computing Systems, Lugano, Switzerland.
- 2011 **Invited talk** at the Conference of the Italian Association for Artificial Intelligence, Palermo, Italy.
- 2011 **Invited talk** at the University of Southampton, Southampton, UK.

Tutorials in Conferences and Summer Schools

2013	Equilibrium Computation , AAAI.
2012	Equilibrium Computation , AAMAS.
2011	Security Games , AAAI.
2011	Security Games , AAMAS.
2008, 2009, 2010	Automated Negotiations in Electronic Markets , European Agent Systems Summer School (EASSS).

Editorial Board

2017 – present	Associate Editor of Journal of Artificial Intelligence Research (JAIR).
2013 – 2017	Editorial Board Member of Journal of Artificial Intelligence Research (JAIR).
2017 – present	Editorial Board Member of Intelligenza Artificiale (the international journal of AIxIA).

Guest Editor of Special Issues

2021	Special issue on Machine learning in multi-agent environments on Frontiers Research Topics journal.
2021	Special issue on Algorithmic Game Theory on Algorithms journal.

Organization of Scientific Meetings and Schools

2022	Co-Organizer , AIxIA Workshop on Strategies, Prediction, Interaction, and Reasoning in Italy.
2021	Co-Organizer , European Summer School on Learning in Games, Markets, and Online Decision Making.
2020, 2021	Program Co-Chair , AAAI Student abstract program.
2015, 2016, 2017	Co-Organizer , Workshop on Algorithmic Game Theory (at IJCAI).
2017, 2018	Sponsorship Chair , AAMAS.
2019	Organizer , Market, Algorithms, Prediction, and Learning Workshop.

Program Committee Member

2023	Area Chair , AAMAS.
2021, 2022	Area Chair , NeurIPS.
2013, 2016–2021	Senior Program Committee Member , AAAI.
2012, 2019–2021	Senior Program Committee Member , AAMAS.
2011–2015, 2018–2021	Senior Program Committee Member , IJCAI.
2008–2011, 2013–2018, 2022	Program Committee Member , AAMAS.
2011, 2012, 2014, 2015	Program Committee Member , AAAI.
2012, 2014	Program Committee Member , ACM EC.
2020	Program Committee Member , ECAI.
2019	Program Committee Member , ICML.
2016, 2017	Program Committee Member , IJCAI.
2019, 2020	Program Committee Member , NeurIPS.

Award Committees

2019	Committee Member of the IFAAMAS Influential Paper Award.
2018	Committee Chair of the IFAAMAS Victor Lesser Distinguished Dissertation Award.
2018	Committee Member of the European Association for Artificial Intelligence (EurAi) Ph.D. Dissertation Award.
2017	Committee Member of the IFAAMAS Victor Lesser Distinguished Dissertation Award.
2015	Committee Member of the AIXIA Doctoral Dissertation Award.

PhD Graduation Committees

2022	Committee Member at Alberta University (Canada) and Brown University (USA).
2022, 2021	Committee Chair at Politecnico di Milano.

Leadership in Competitive AI Research Projects

Project Acronym	Time Period	Funding Institution	Funding Scheme	Role	Budget for the Applicant's Institution
FAIR	2023 - 2025	MUR	PNRR-PE	Spoke coordinator	12 MEuro (6 MEuro for PoliMi)
ALGADIMAR	2019 - 2021	MIUR	PRIN	PI of the PoliMi Unit	140 KEuro

Leadership in Industrial AI Research Projects

Project Acronym	Time Period	Funding Company	Role	Budget for the Applicant's Institution
LoadOpt	2022 - 2023	A2A	PI	30 KEuro
BetMatic	2022 - 2023	Snaitech	PI	180 Euro
AI4Design	2021 - 2022	Agrati Group	PI	40 KEuro
VocalMaint	2021 - 2022	Terranova	PI	68 KEuro
EleForecast	2021 - 2022	ATOS	PI	60 KEuro
DeepBid	2020 - 2022	ML cube	PI	82 KEuro
BidMatic	2019 - 2020	AdsHotel	PI	65 KEuro
MediaMatic	2016 - 2020	MMM group	PI	120 KEuro
MethaMatics	2014 - 2018	lastminute.com	PI	525 KEuro
RentMatic	2019 - 2021	DoveVivo	PI	175 KEuro
RocketAvoid	2018 - 2019	Analisi&Valore	PI	60 KEuro

Funds Collected by the Italian Observatory in AI

Time Period	Number of Funding Companies	Funds
2020 – 2021	33	330 KEuro
2019 – 2020	32	320 KEuro
2018 – 2019	24	240 KEuro
2017 – 2018	10	100 KEuro

Industrial Impact

- 2015 – 2018 **Deployment and evaluation of automatic dynamic pricing algorithms for lastminute.com.** The algorithms priced flight tickets for a total value (margin plus cost) larger than **30 million Euro per year** over a period of **two years**. After the conclusion of the project, *lastminute.com* created an R&D group in AI and ML that is currently extending the algorithms in collaboration with the research group of Nicola Gatti. The algorithms developed for this application have been published in [J2, J8, C31, C66]. In particular, the algorithms work as follows. The market is decomposed into several segments according to some features in an explainable way using decision trees [C66]. For each segment, an estimation/prediction algorithm is used to estimate the revenue one gets from selling a flight ticket due to random events happening after the sale (*e.g.*, buying extra luggage, using parking, renting a car). Change-detection test techniques are used to detect changes due to non-stationarity and thus to discard non-significant data. Multi-armed bandit algorithms with unimodular and/or monotonicity assumptions are used to change the price dynamically in online fashion [J8, C31]. A sliding window is used in the bandit algorithms to address non-stationarity [J2].
- 2016 – present **Deployment and evaluation of advertising optimization algorithms for MMM group.** Our algorithms optimized several advertising campaigns for a total budget spent of about **5 KEuro per day since July 2017**. The algorithms developed for this application have been published in [C20, C23, C65]. An extended version, describing the algorithms, their theoretical guarantees, and a real-world experiment on an advertisement campaign for about 1 KEuro per day, is currently under review at Artificial Intelligence Journal (after a request of a major revision); the [arXiv](#) version is available online. The algorithms combine combinatorial bandit techniques and Gaussian Processes for joint bid/budget optimization in online fashion. Specific regression models have been developed to address data scarcity. A sliding window approach has been developed to deal with non-stationarity. Furthermore, the targeting is optimized by using context generation techniques [65], while the interrelationships between the campaigns are discovered and managed by using causality tests [C20].
- 2019 – present **Deployment and evaluation of automatic pricing algorithms for DoveVivo.** Our algorithms suggested to human specialists, since May 2019, prices for about 3,600 rooms with an average monthly rent of about 900 Euro. The total amount of revenue is about **30 MEuro** over a period of **one year**.
- 2011 – 2016 **Deployment al algorithms for strategic patrolling.** A Demo was presented at AAMAS 2011. In 2015, the **Italian Ministry of the Interiors** (Polizia di Stato Italiana) activated a project to adopt our algorithms for the **security of Malpensa Airport (MXP) and Linate Airports (LIN)** at Milano, Italy.

AI Start-ups/Spin-offs

- 2013 – 2018 **Co-Founder** of Youmove.Me/WayNaut. The start-up collected more than 1 MEuro of funding from multiple investors and was sold in 2018 to lastminute.com. It aggregated information about means of transport both traditional and innovative and provides users with multi-modal interfaces.

2020 – present **Co-Founder** of ML cube. The spinoff collected an initial seed of about 100 KEuro. It develops machine learning and optimization tools for online settings (*e.g.*, ecommerce, digital marketing, finance). In 2022, ML cube was awarded by Forbes as one of the top 10 Italian AI startups.

Technical Courses on AI for Companies

2022 **ML ops**, WISEE.
 2020 **Online Machine Learning**, CEFRIEL.
 2019 **Algorithmic Game Theory**, Ferrari Racing Team Formula 1.
 2019 **Online Machine Learning**, lastminute.com and NUMIA.
 2019, 2020 **Online Learning**, Deloitte.

Teaching Activities

Institution Name	Course Name	CFUs	Average No. of Students	Reference Study Course	Time Period
PoliMi	Multi-agent Learning	5	To be defined	Ph.D. in Information Technology	2022
UniBg	Algorithmic Game Theory	5	~ 20	Ph.D. in Computer Science and Engineering	2020
PoliMi	Computer Systems	8	> 200	B.Sc. in Automation and Control Engineering	2006 – 2022
PoliMi	Data Intelligence Applications	5	> 100	M.Sc. in Computer Science and Engineering	2018 – 2022
PoliMi	Economics and Computation	6	> 100	M.Sc. in Computer Science and Engineering	2015 – 2022
PoliMi	Web and Internet Economics	5	~ 50	M.Sc. in Computer Science and Engineering	2015 – 2015
PoliMi	Internet Economics	5	~ 10	Ph.D. in Computer Science and Engineering	2016, 2017
PoliMi	Cooperative Games, Mechanism Design, and Auctions	5	~ 10	Ph.D. in Computer Science and Engineering	2009
PoliMi	Game Theoretical Models in Engineering	5	~ 50	Ph.D. in Engineering	2015
PoliMi	Algorithmic Game Theory	5	~ 20	Ph.D. in Computer Science and Engineering	2008, 2010, 2012, 2014

Media

TV	2020	Sky TG 24 (link).
	2019	TG1 (link).
	2018	CNBC Class (link).
Radio	2020	RadioIT (link).
Newspapers and magazines	2021	Informatics Europe (link).
	2020	Automazione Industriale (link), BiMag (link), Il Giornale delle PMI (link), Il Sole 24 Ore (link), Industria Italiana (link), Wired (link), Zero Uno (link 1 , link 2), La Stampa (link), Automazione Industriale (link), Scienza in rete (link), Zero Uno (link), We Wealth (link), Algoritmo Umano (link), Synced Review (link 1 , link 2), Medium (link), ZDnet (link), AI times (link), Finance (link), AI hub (link), Towards Data Science (link), AI4EU (link), Psychology Today (link).
	2019	Agenda Digitale (link), AI4Business (link), Finanza.com (link), Forum PA (link), Il Sole 24 Ore (link), Internet4Things (link), Innovation Post (link 1 , link 2), Repubblica (link), Zero Uno (link 1 , link 2).
	2018	Affari Italiani (link), Agenda Digitale (link), AI4Business (link), Donna Moderna (link), Industria 4.0 (link), Industria Italiana (link), L'Indro (link), Repubblica (link).
	2017	Engage (link), Repubblica (link).
	2016	Advertiser Communication Strategies (link), Programmatica Italia (link).

Top 12 papers

1. M. Castiglioni, A. Marchesi, N. Gatti: *Bayesian agency: Linear versus tractable contracts*. **Artificial Intelligence Journal** (2022). **[CORE A*]**
2. A. Nuara, F. Trovò, N. Gatti, M. Restelli: *Online Joint Bid/Daily Budget Optimization of Internet Advertising Campaigns*. **Artificial Intelligence Journal** (2022). **[CORE A*]**
3. G. Farina, A. Celli, A. Marchesi, N. Gatti: *Simple Uncoupled No-Regret Learning Dynamics for Extensive-Form Correlated Equilibrium*. **Journal of the ACM** (2022). **[CORE A*]**
4. M. Castiglioni, A. Marchesi, N. Gatti: *Committing to Correlated Strategies with Multiple Leaders*. **Artificial Intelligence Journal** (2021). **[CORE A*]**
5. A. Celli, A. M., G. Farina, N. Gatti: *No-Regret Learning Dynamics for Extensive-Form Correlated Equilibrium*. **NeurIPS (best paper award)** 2020. **[CORE A*, GGS A++]**
6. S. Coniglio, N. Gatti, A. Marchesi: *Computing a pessimistic Stackelberg equilibrium with multiple followers: The mixed-pure case*. **Algorithmica** 82(5): 1189-1238 (2020). **[CORE A*]**
7. M. Castiglioni, A. Marchesi, N. Gatti, S. Coniglio: *Leadership in singleton congestion games: What is hard and what is easy*. **Artificial Intelligence Journal** 277 (2019). **[CORE A*]**
8. N. Basilico, G. De Nittis, N. Gatti: *Adversarial patrolling with spatially uncertain alarm signals*. **Artificial Intelligence Journal** 246: 220-257 (2017). **[CORE A*]**
9. N. Gatti, A. Lazaric, M. Rocco, F. Trovò: *Truthful learning mechanisms for multi-slot sponsored search auctions with externalities*. **Artificial Intelligence Journal** 227: 93-139 (2015). **[CORE A*]**
10. I. Malanchini, M. Cesana, N. Gatti: *Network Selection and Resource Allocation Games for Wireless Access Networks*. **IEEE Transactions on Mobile Computing** 12(12): 2427-2440 (2013). **[CORE A*]**
11. N. Basilico, N. Gatti, F. Amigoni: *Patrolling security games: Definition and algorithms for solving large instances with single patroller and single intruder*. **Artificial Intelligence Journal** 184-185: 78-123 (2012). **[CORE A*]**
12. N. Gatti, F. Di Giunta, S. Marino: *Alternating-offers bargaining with one-sided uncertain deadlines: an efficient algorithm*. **Artificial Intelligence Journal** 172(8-9): 1119-1157 (2008). **[CORE A*]**

Selected Journal Papers

1. Matteo Castiglioni, Alberto Marchesi, Nicola Gatti: *Bayesian agency: Linear versus tractable contracts*. **Artificial Intelligence Journal** (2022).
2. Alessandro Nuara, Francesco Trovò, Nicola Gatti, Marcello Restelli: *Online Joint Bid/Daily Budget Optimization of Internet Advertising Campaigns*. **Artificial Intelligence Journal** (2022).
3. Gabriele Farina, Andrea Celli, Alberto Marchesi, Nicola Gatti: *Simple Uncoupled No-Regret Learning Dynamics for Extensive-Form Correlated Equilibrium*. **The Journal of the ACM** (2022).
4. Matteo Castiglioni, Diodato Ferraioli, Nicola Gatti: *Election Manipulation on Social Networks: Seeding, Edge Removal, Edge Addition*. **Journal of Artificial Intelligence Research** (2021).
5. Matteo Castiglioni, Alberto Marchesi, Nicola Gatti: *Committing to Correlated Strategies with Multiple Leaders*. **Artificial Intelligence Journal** (2021).
6. Eleonora Braggion, Nicola Gatti, Roberto Lucchetti, Tuomas Sandholm, Bernhard von Stengel, *Strong Nash equilibria and mixed strategies*. **International Journal of Game Theory** 49(3): 699-710 (2020).
7. Francesco Trovò, Stefano Paladino, Marcello Restelli, and Nicola Gatti, *Sliding-window Thompson Sampling for non-stationary settings*. **Journal of Artificial Intelligence Research** 68: 311-364 (2020).
8. Nicola Gatti, Mario Gilli, Alberto Marchesi, *On the characterization of Quasi-Perfect equilibria*. **Games and Economic Behavior** 122: 240-255 (2020).
9. Stefano Coniglio, Nicola Gatti, Alberto Marchesi, *Computing a pessimistic Stackelberg equilibrium with multiple followers: The mixed-pure case*. **Algorithmica** 82(5): 1189-1238 (2020).
10. Nicola Basilico, Stefano Coniglio, Nicola Gatti, Alberto Marchesi: *Bilevel programming methods for computing single-leader-multi-follower equilibria in normal-form and polymatrix games*. **EURO Journal of Computing Optimization** 8(1): 3-31 (2020).
11. Matteo Castiglioni, Alberto Marchesi, Nicola Gatti, Stefano Coniglio: *Leadership in singleton congestion games: What is hard and what is easy*. **Artificial Intelligence Journal** 277 (2019).
12. Nicola Gatti, Marco Rocco, Paolo Serafino, Carmine Ventre: *Towards better models of externalities in sponsored search auctions*. **Theoretical Computer Science** 745: 150-162 (2018).
13. Francesco Trovò, Stefano Paladino, Marcello Restelli, Nicola Gatti, *Improving multi-armed bandit algorithms in online pricing settings*. **International Journal of Approximate Reasoning** 98: 196-235 (2018).
14. Nicola Basilico, Giuseppe De Nittis, Nicola Gatti: *Adversarial patrolling with spatially uncertain alarm signals*. **Artificial Intelligence Journal** 246: 220-257 (2017).
15. Gabriele Farina, Nicola Gatti: *Adopting the Cascade Model in Ad Auctions: Efficiency Bounds and Truthful Algorithmic Mechanisms*. **Journal of Artificial Intelligence Research** 59: 265-310 (2017).
16. Bo An, Nicola Gatti, Victor R. Lesser: *Alternating-offers bargaining in one-to-many and many-to-many settings*. **Annals of Mathematics and Artificial Intelligence** 77(1-2): 67-103 (2016).
17. Nicola Basilico, Matteo Cesana, Nicola Gatti, *Algorithms to find two-hop routing policies in multiclass delay tolerant networks*. **IEEE Transactions on Wireless Communications**, vol. 15, no. 6, pp. 4017–4031 (2016).
18. Nicola Gatti, Alessandro Lazaric, Marco Rocco, Francesco Trovò: *Truthful learning mechanisms for multi-slot sponsored search auctions with externalities*. **Artificial Intelligence Journal** 227: 93-139 (2015).
19. Nicola Basilico, Nicola Gatti, Mattia Monga, Sabrina Sicari: *Security Games for Node Localization through Verifiable Multilateralization*. **IEEE Transactions on Dependable and Secure Computing** 11(1): 72-85 (2014).
20. Bo An, Nicola Gatti, Victor R. Lesser: *Bilateral bargaining with one-sided uncertain reserve prices*. **Autonomous Agents and Multi-Agent Systems** 26(3): 420-455 (2013).
21. Ilaria Malanchini, Matteo Cesana, Nicola Gatti: *Network Selection and Resource Allocation Games for Wireless Access Networks*. **IEEE Transactions on Mobile Computing** 12(12): 2427-2440 (2013).
22. Nicola Basilico, Nicola Gatti, Francesco Amigoni: *Patrolling security games: Definition and algorithms for solving large instances with single patroller and single intruder*. **Artificial Intelligence Journal** 184-185: 78-123 (2012).

23. Nicola Gatti: *Extending the alternating-offers protocol in the presence of competition: models and theoretical analysis*. **Annals of Mathematics and Artificial Intelligence** 55(3-4): 189-236 (2009)
24. Nicola Gatti, Francesco Di Giunta, Stefano Marino: *Alternating-offers bargaining with one-sided uncertain deadlines: an efficient algorithm*. **Artificial Intelligence Journal** 172(8-9): 1119-1157 (2008).
25. Francesco Amigoni, Nicola Gatti: *A formal framework for connective stability of highly decentralized cooperative negotiations*. **Autonomous Agents and Multi-Agent Systems**. 15(3): 253-279 (2007).
26. Francesco Di Giunta, Nicola Gatti: *Bargaining over multiple issues in finite horizon alternating-offers protocol*. **Annals of Mathematics and Artificial Intelligence** 47(3-4): 251-271 (2006).
27. Francesco Amigoni, Alessandro Beda, Nicola Gatti: *Combining Rate-Adaptive Cardiac Pacing Algorithms Via Multiagent Negotiation*. **IEEE Transactions on Information Technologies in Biomedicine** 10(1): 11-18 (2006).
28. Francesco Amigoni, Nicola Gatti, Carlo Pinciroli, Manuel Roveri: *What planner for ambient intelligence applications?* **IEEE Transactions on Systems Man and Cybernetics Part A** 35(1): 7-21 (2005).
29. Francesco Amigoni, Alessandro Beda, Nicola Gatti: *Multiagent systems for cardiac pacing simulation and control*. **AI Communications** 18(3): 217-228 (2005).
30. Francesco Amigoni, Marco Dini, Nicola Gatti, Marco Somalvico: *Anthropic agency: a multiagent system for physiological processes*. **Artificial Intelligence in Medicine** 27(3): 305-334 (2003).

Selected Conference Papers

1. Marco Mussi, Gianmarco Genalti, Francesco Trovò, Alessandro Nuara, Nicola Gatti, Marcello Restelli. *Pricing the Long Tail by Explainable Product Aggregation and Monotonic Bandits*. **KDD** 2022.
2. Giulia Romano, Andrea Agostini, Francesco Trovò, Nicola Gatti, Marcello Restelli. *Multi-Armed Bandit Problem with Temporally-Partitioned Rewards: When Partial Feedback Counts*. **IJCAI** 2022.
3. Giulia Romano, Matteo Castiglioni, Alberto Marchesi, Nicola Gatti. *The Power of Media Agencies in Ad Auctions: Improving Utility through Coordinated Bidding*. **IJCAI** 2022.
4. Francesco Bacchiocchi, Matteo Castiglioni, Alberto Marchesi, Giulia Romano, Nicola Gatti. *Public Signaling in Bayesian Ad Auctions*. **IJCAI** 2022.
5. Martino Bernasconi, Federico Cacciamani, Matteo Castiglioni, Alberto Marchesi, Nicola Gatti, Francesco Trovò: *Safe Learning in Tree-Form Sequential Decision Making: Handling Hard and Soft Constraints*. **ICML** 2022.
6. Luca Carminati, Federico Cacciamani, Marco Ciccone, Nicola Gatti: *A Marriage between Adversarial Team Games and 2-player Games: Enabling Abstractions, No-regret Learning, and Subgame Solving*. **ICML** 2022.
7. Matteo Castiglioni, Alberto Marchesi, Nicola Gatti: *Designing Menus of Contracts Efficiently: The Power of Randomization*. **ACM EC** 2022.
8. Matteo Castiglioni, Alberto Marchesi, Nicola Gatti: *Bayesian Persuasion Meets Mechanism Design: Going Beyond Intractability with Type Reporting*. **AAMAS** 2022.
9. Martino Bernasconi de Luca, Federico Cacciamani, Simone Fioravanti, Nicola Gatti and Francesco Trovò: *The Evolutionary Dynamics of Soft-Max Policy Gradient in Multi-Agent Settings*. **AAMAS** 2022.
10. Matteo Castiglioni, Giulia Romano, Alberto Marchesi, Nicola Gatti: *Signaling in Posted Price Auctions*. **AAAI** 2022.
11. Matteo Castiglioni, Diodato Ferrarioli, Nicola Gatti, Alberto Marchesi, Giulia Romano: *Efficiency of Ad Auctions with Price Displaying*. **AAAI** 2022.
12. Martino Bernasconi de Luca, Federico Cacciamani, Simone Fioravanti, Nicola Gatti, Alberto Marchesi, Francesco Trovò: *Exploiting Opponents While Keeping Them Engaged in Sequential Games*. **NeurIPS** 2021.
13. Luca Carminati, Federico Cacciamani, Marco Ciccone, Nicola Gatti: *Public Information Representation for Adversarial Team Games*. **Cooperative AI (best paper award)** 2021.
14. Matteo Castiglioni, Alberto Marchesi, Nicola Gatti: *Bayesian Agency: Linear versus Tractable Contracts*. **ACM EC** 2021.

15. Matteo Castiglioni, Andrea Celli, Alberto Marchesi, Nicola Gatti: *Multi-Receiver Online Bayesian Persuasion*. **ICML** 2021.
16. Andrea Celli, Gabriele Farina, Nicola Gatti, Tuomas Sandholm: *Connecting Optimal Ex-Ante Collusion in Teams to Extensive-Form Correlation: Faster Algorithms and Positive Complexity Results*. **ICML** 2021.
17. Federico Cacciamani, Andrea Celli, Marco Ciccone, Nicola Gatti: *Multi-Agent Coordination in Adversarial Environments through Signal Mediated Strategies*. **AAMAS** 2021.
18. Alberto Marchesi, Nicola Gatti: *Trembling-Hand Perfection and Correlation in Sequential Games*. **AAAI** 2021.
19. Giulia Romano, Alberto Marchesi, Gianluca Tartaglia, Nicola Gatti: *Online Posted Pricing with Unknown Time-Discounted Valuations*. **AAAI** 2021.
20. Matteo Castiglioni, Nicola Gatti: *Persuading Voters in District-Based Elections*. **AAAI** 2021.
21. Matteo Castiglioni, Andrea Celli, Alberto Marchesi, Nicola Gatti: *Signaling in Bayesian Network Congestion Games: The Subtle Power of Symmetry*. **AAAI** 2021.
22. Matteo Castiglioni, Andrea Celli, Alberto Marchesi, Nicola Gatti: *Online Bayesian Persuasion*. **NeurIPS (spotlight presentation)** 2020.
23. Andrea Celli, Alberto Marchesi, Gabriele Farina, Nicola Gatti: *No-Regret Learning Dynamics for Extensive-Form Correlated Equilibrium*. **NeurIPS (best paper award)** 2020.
24. Matteo Castiglioni, Andrea Celli, Nicola Gatti: *Persuading Voters: It's Easy to Whisper, It's Hard to Speak Loud*. **AAAI** 2020: 1870-1877.
25. Matteo Castiglioni, Diodato Ferraioli, Nicola Gatti: *Election Control in Social Networks via Edge Addition or Removal*. **AAAI** 2020: 1878-1885.
26. Andrea Celli, Stefano Coniglio, Nicola Gatti: *Private Bayesian Persuasion with Sequential Games*. **AAAI** 2020: 1886-1893.
27. Alberto Marchesi, Francesco Trovò, Nicola Gatti: *Learning Probably Approximately Correct Maximin Strategies in Simulation-Based Games with Infinite Strategy Spaces*. **AAMAS** 2020: 834-842.
28. Alessandro Nuara, Francesco Trovò, Dominic Crippa, Nicola Gatti, Marcello Restelli: *Driving Exploration by Maximum Distribution in Gaussian Process Bandits*. **AAMAS** 2020: 948-956.
29. Vincenzo Auletta, Giuseppe De Nittis, Diodato Ferraioli, Nicola Gatti, Domenico Longo: *Strategic Monitor Placement Against Malicious Flows*. **ECAI** 2020: 11-18.
30. Alberto Marchesi, Gabriele Farina, Christian Kroer, Nicola Gatti, Tuomas Sandholm: *Quasi-Perfect Stackelberg Equilibrium*. **AAAI** 2019: 2117-2124.
31. Andrea Celli, Stefano Coniglio, Nicola Gatti: *Computing Optimal Ex Ante Correlated Equilibria in Two-Player Sequential Games*. **AAMAS** 2019: 909-917.
32. Andrea Celli, Giulia Romano, Nicola Gatti: *Personality-Based Representations of Imperfect-Recall Games*. **AAMAS** 2019: 1868-1870.
33. Matteo Castiglioni, Alberto Marchesi, Nicola Gatti: *Be a Leader or Become a Follower: The Strategy to Commit to with Multiple Leaders*. **IJCAI** 2019: 123-129.
34. Alberto Marchesi, Matteo Castiglioni, Nicola Gatti: *Leadership in Congestion Games: Multiple User Classes and Non-Singleton Actions*. **IJCAI** 2019: 485-491.
35. Andrea Celli, Alberto Marchesi, Tommaso Bianchi, Nicola Gatti: *Learning to Correlate in Multi-Player General-Sum Sequential Games*. **NeurIPS** 2019: 13055-13065.
36. Alessandro Nuara, Nicola Sosio, Francesco Trovò, Maria Chiara Zaccardi, Nicola Gatti, Marcello Restelli: *Dealing with Interdependencies and Uncertainty in Multi-Channel Advertising Campaigns Optimization*. **WWW** 2019: 1376-1386.
37. Andrea Celli, Nicola Gatti: *Computational Results for Extensive-Form Adversarial Team Games*. **AAAI** 2018: 965-972.
38. Giuseppe De Nittis, Alberto Marchesi, Nicola Gatti: *Computing the Strategy to Commit to in Polymatrix Games*. **AAAI** 2018: 989-996.
39. Alessandro Nuara, Francesco Trovò, Nicola Gatti, Marcello Restelli: *A Combinatorial-Bandit Algorithm for the Online Joint Bid/Budget Optimization of Pay-per-Click Advertising Campaigns*. **AAAI** 2018: 2379-2386.

40. Gabriele Farina, Alberto Marchesi, Christian Kroer, Nicola Gatti, Tuomas Sandholm: *Trembling-Hand Perfection in Extensive-Form Games with Commitment*. **IJCAI** 2018: 233-239.
41. Alberto Marchesi, Stefano Coniglio, Nicola Gatti: *Leadership in Singleton Congestion Games*. **IJCAI** 2018: 447-453.
42. Gabriele Farina, Nicola Gatti, Tuomas Sandholm: *Practical exact algorithm for trembling-hand equilibrium refinements in games*. **NeurIPS** 2018: 5044-5054.
43. Gabriele Farina, Andrea Celli, Nicola Gatti, Tuomas Sandholm: *Ex ante coordination and collusion in zero-sum multi-player extensive-form games*. **NeurIPS** 2018: 9661-9671.
44. Nicola Basilico, Nicola Gatti: *Automated Abstractions for Patrolling Security Games*. **AAAI** 2011.
45. Nicola Basilico, Andrea Celli, Giuseppe De Nittis, Nicola Gatti: *Team-Maxmin Equilibrium: Efficiency Bounds and Algorithms*. **AAAI** 2017: 356-362.
46. Gabriele Farina, Nicola Gatti: *Extensive-Form Perfect Equilibrium Computation in Two-Player Games*. **AAAI** 2017: 502-508.
47. Stefano Paladino, Francesco Trovò, Marcello Restelli, Nicola Gatti: *Unimodal Thompson Sampling for Graph-Structured Arms*. **AAAI** 2017: 2457-2463.
48. Nicola Basilico, Andrea Celli, Giuseppe De Nittis, Nicola Gatti: *Coordinating Multiple Defensive Resources in Patrolling Games with Alarm Systems*. **AAMAS** 2017: 678-686.
49. Stefano Coniglio, Nicola Gatti, Alberto Marchesi: *Pessimistic Leader-Follower Equilibria with Multiple Followers*. **IJCAI** 2017: 171-177.
50. Lorenzo Bisi, Giuseppe De Nittis, Francesco Trovò, Marcello Restelli, Nicola Gatti: *Regret Minimization Algorithms for the Followers Behaviour Identification in Leadership Games*. **UAI** 2017.
51. Andrea Celli, Alberto Marchesi, Nicola Gatti: *On the Complexity of Nash Equilibrium Reoptimization*. **UAI** 2017.
52. Francesco Trovò, Stefano Paladino, Marcello Restelli, Nicola Gatti: *Budgeted Multi-Armed Bandit in Continuous Action Space*. **ECAI** 2016: 560-568.
53. Nicola Gatti, Marco Rocco, Paolo Serafino, Carmine Ventre: *Towards Better Models of Externalities in Sponsored Search Auctions*. **ECAI** 2016: 1167-1175.
54. Nicola Basilico, Giuseppe De Nittis, Nicola Gatti: *A Security Game Combining Patrolling and Alarm-Triggered Responses Under Spatial and Detection Uncertainties*. **AAAI** 2016: 404-410.
55. Gabriele Farina, Nicola Gatti: *Ad Auctions and Cascade Model: GSP Inefficiency and Algorithms*. **AAAI** 2016: 489-495.
56. Nicola Gatti, Marcello Restelli: *Sequence-Form and Evolutionary Dynamics: Realization Equivalence to Agent Form and Logit Dynamics*. **AAAI** 2016: 509-515.
57. Nicola Gatti, Marco Rocco, Sofia Ceppi, Enrico H. Gerding: *Mechanism Design for Mobile Geo-Location Advertising*. **AAAI** 2014: 691-697.
58. Fabio Panozzo, Nicola Gatti, Marcello Restelli: *Evolutionary Dynamics of Q-Learning over the Sequence Form*. **AAAI** 2014: 2034-2040.
59. Nicola Gatti, Tuomas Sandholm: *Finding the pareto curve in bimatrix games is easy*. **AAMAS** 2014: 1217-1224.
60. Nicola Gatti, Fabio Panozzo, Marcello Restelli: *Efficient Evolutionary Dynamics with Extensive-Form Games*. **AAAI** 2013.
61. Nicola Gatti, Marco Rocco, Tuomas Sandholm: *Algorithms for Strong Nash Equilibrium with More than Two Agents*. **AAAI** 2013.
62. Nicola Gatti, Marco Rocco: *Which mechanism for sponsored search auctions with externalities?* **AAMAS** 2013: 635-642
63. Nicola Gatti, Marco Rocco, Tuomas Sandholm: *On the verification and computation of strong Nash equilibrium*. **AAMAS** 2013: 723-730.
64. Guido Bonomi, Nicola Gatti, Fabio Panozzo, Marcello Restelli: *Computing Equilibria with Two-Player Zero-Sum Continuous Stochastic Games with Switching Controller*. **AAAI** 2012.

65. Nicola Gatti, Fabio Panozzo: *New results on the verification of Nash refinements for extensive-form games*. **AAMAS** 2012: 813-820.
66. Nicola Gatti, Alessandro Lazaric, Francesco Trovò: *A truthful learning mechanism for contextual multi-slot sponsored search auctions with externalities*. **ACM EC** 2012: 605-622.
67. Nicola Gatti, Giorgio Patrini, Marco Rocco, Tuomas Sandholm: *Combining local search techniques and path following for bimatrix games*. **UAI** 2012: 286-295.
68. Nicola Basilico, Nicola Gatti: *Automated Abstractions for Patrolling Security Games*. **AAAI** 2011.
69. Sofia Ceppi, Nicola Gatti, Enrico H. Gerding: *Mechanism Design for Federated Sponsored Search Auctions*. **AAAI** 2011.
70. Nicola Gatti, Claudio Iuliano: *Computing an Extensive-Form Perfect Equilibrium in Two-Player Games*. **AAAI** 2011.
71. Nicola Gatti, Marcello Restelli: *Equilibrium approximation in simulation-based extensive-form games*. **AAMAS** 2011: 199-206.
72. Nicola Gatti, Fabio Panozzo, Sofia Ceppi: *Computing a self-confirming equilibrium in two-player extensive-form games*. **AAMAS** 2011: 981-988.
73. Nicola Basilico, Nicola Gatti, Pietro Testa: *TALOS: a tool for designing security applications with mobile patrolling robots*. **AAMAS** 2011: 1317-1318.
74. Nicola Basilico, Nicola Gatti, Federico Villa: *Asynchronous Multi-Robot Patrolling against Intrusions in Arbitrary Topologies*. **AAAI** 2010.
75. Francesco Amigoni, Nicola Basilico, Nicola Gatti, Alessandro Saporiti, Stefano Troiani: *Moving game theoretical patrolling strategies from theory to practice: An USARSim simulation*. **ICRA** 2010: 426-431.
76. Nicola Basilico, Nicola Gatti, Francesco Amigoni: *Leader-follower strategies for robotic patrolling in environments with arbitrary topologies*. **AAMAS** (1) 2009: 57-64.
77. Francesco Amigoni, Nicola Basilico, Nicola Gatti: *Finding the optimal strategies for robotic patrolling with adversaries in topologically-represented environments*. **ICRA** 2009: 819-824.
78. Nicola Gatti: *Game Theoretical Insights in Strategic Patrolling: Model and Algorithm in Normal-Form*. **ECAI** 2008: 403-407.
79. Francesco Di Giunta, Nicola Gatti: *Bargaining in Bundle over Multiple Issues in Finite-Horizon Alternating-Offers Protocol*. **ISAIM** 2006.
80. Nicola Gatti, Francesco Amigoni: *A Cooperative Negotiation Protocol for Physiological Model Combination*. **AAMAS** 2004: 655-662.
81. Margherita Gasparini, Alessandro Nuara, Francesco Trovò, Nicola Gatti, Marcello Restelli: *Targeting Optimization for Internet Advertising by Learning from Logged Bandit Feedback*. **IJCNN** 2018: 1-8.
82. Francesco Trovò, Stefano Paladino, Paolo Simone, Marcello Restelli, Nicola Gatti: *Risk-averse trees for learning from logged bandit feedback*. **IJCNN** 2017: 976-983.