

# Giorgia Ramponi

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## Curriculum Vitae

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### Education

- 2017–2021 **Ph.D. in Computer Science**, *Politecnico di Milano*, cum laude.  
○ Thesis: “*Challenges and Opportunities in Multi-Agent Reinforcement Learning*”  
Supervisor: Prof. Marcello Restelli  
○ Reviewers: Prof. Pietquin, Prof. Ratliff
- 2015–2017 **M.Sc. in Computer Science**, *La Sapienza, Rome*, 110/110 cum laude.  
○ Thesis: “*Average Distortion of LSH Schemes*”  
Supervisor: Prof. Flavio Chierichetti  
Co-supervisor: Prof. Alessandro Panconesi
- 2012–2015 **B.Sc. in Computer Science**, *La Sapienza, Rome*, 110/110 cum laude.  
○ Thesis: “*Development of a backscattering system for videogame controllers*”  
Supervisor: Prof. Gaia Maselli  
Co-supervisor: Ph.D. Dora Spenza

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### Honors & Awards

- 04/2018 **Best Student Recognition**, among the top 2 Computer Science student in the year 2016-2017, at La Sapienza University of Rome.
- 03/2017 **Honours Master of Science program**, among the top 3 Computer Science student in the year 2016-2017, at La Sapienza University of Rome.
- 10/2016 **Travel Grant Award**, at MobiCom '16 the 22nd Annual International Conference on Mobile Computing and Networking.
- 07/2016 **IBM Best Student Recognition Award in EMEA**, for academic merits.
- 02/2014 **Honours Bachelor of Science program**, among the top 5 Computer Science student in the year 2014-2015, at La Sapienza University of Rome.
- 2014-2016 **Department of Computer Science scholarship**, for merits, at La Sapienza University of Rome.
- 2012-2015 **University Scholarship**, for merits, at La Sapienza University of Rome.

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### Research Experiences

- forthcoming **ETH AI Center Postdoc Fellow**, ETH Zurich. Supervised by Andreas Krause and Niao He.
- 06-07/2018 **Research visit at Harvard University**, Institute for Applied Computational Science. Headed by Prof. Pavlos Protopapas.

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1/6

- Project: *Generative Adversarial Network for Time Series with unfixed time intervals and lenght*
- 2017–2018 **Research fellowship at Politecnico di Milano**, under supervision of Prof. Marco Brambilla.
  - Collection, integration and analysis of data from web sources, social networks and official sources relating to commercial behavior and effectiveness of online communication actions by fashion brands.
- 2015–2016 **Research fellowship at La Sapienza, Rome**, under supervision of Prof. Gaia Maselli.
  - Design, development and implementation of backscattering RFID solutions

## Publications

### In Preparation or Under Review

- [P3] **G. Ramponi**, M. Restelli, “Online Learning in General-sum Turn-based Stochastic Games”, in preparation
- [P2] **G. Ramponi**, A. Concetti, A.M. Metelli, M. Restelli, “Online Non-cooperative Configurable Markov Decision Processes”, under review
- [P1] **G. Ramponi**, P. Protopapas, M. Brambilla, R. Janssen “TC-GAN: Conditional Generative Adversarial Network for Data Augmentation in Noisy Time Series with Irregular Sampling”, <https://arxiv.org/abs/1811.08295>

### Conferences

- [C10] A.M. Metelli\*, **G. Ramponi**\*, A. Concetti, M. Restelli (\*equal contribution), “Provably Efficient Learning of Transferable Rewards”, to appear at ICML 2021
- [C9] **G. Ramponi**, M. Restelli, “Newton-based Policy Optimization for Games”, <https://arxiv.org/abs/2007.07804>  
To appear at AAAI Conference on Artificial Intelligents, 2021
- [C8] **G. Ramponi**, G. Drappo, M. Restelli, “Inverse Reinforcement Learning from a Gradient-based Learner”, <https://papers.nips.cc/paper/2020/19aa6c6f-paper.pdf>  
Proceedings of Thirty-fourth Conference on Neural Information Processing Systems 2020
- [C7] F. Betti, **G. Ramponi**, M. Piccardi, “Controlled Text Generation with Adversarial Learning”, <https://www.aclweb.org/anthology/2020.inlg-1.5.pdf>  
Proceedings of International Conference on Natural Language Generation, 2020
- [C6] **G. Ramponi**, A. Likmeta, A. M. Metelli, A. Tirinzoni, M. Restelli “Truly Batch Model-Free Inverse Reinforcement Learning about Multiple Intentions”, <http://proceedings.mlr.press/v108/ramponi20a.html>  
Proceedings of 23rd International Conference on Artificial Intelligence and Statistics, 2020

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2/6

- [C5] M. Gasparini\*, **G. Ramponi**\*, M. Brambilla, S. Ceri (\*equal contribution) “Assigning users to domains of interest based on content and network similarity with champion instances” <https://dl.acm.org/doi/abs/10.1145/3341161.3343687>  
IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining, 2019
- [C4] G. Brena, M. Brambilla, S. Ceri, M. Di Giovanni, F. Pierri, **G. Ramponi** “News Sharing User Behaviour on Twitter: A Comprehensive Data Collection of News Articles and Social Interactions”, <https://www.aaai.org/ojs/index.php/ICWSM/article/view/3256>  
Proceedings of the International AAAI Conference on Web and Social Media, 2019
- [C3] **G. Ramponi**, M. Brambilla, S. Ceri, F. Daniel, M. Di Giovanni “Vocabulary-based Community Detection and Characterization”, <https://dl.acm.org/doi/abs/10.1145/3297280.3297384>  
Proceedings of ACM SAC 2019 - Symposium On Applied Computing, 2019
- [C2] M. Brambilla, S. Ceri, F. Daniel, M. Di Giovanni, A. Mauri, **G. Ramponi** “Iterative Knowledge Extraction from Social Networks” <https://dl.acm.org/doi/abs/10.1145/3184558.3191578>  
Proceedings of WWW ’18 Companion: The 2018 Web Conference Companion, Lyon, France, 2018
- [C1] G. Maselli, M. Piva, **G. Ramponi**, D. Ganesan Demo: JoyTag: a battery-less videogame controller exploiting RFID backscattering, <https://dl.acm.org/doi/abs/10.1145/2973750.2985628>  
Proceedings of MobiCom ’16, the 22nd Annual International Conference on Mobile Computing and Networking, New York, USA, 2016

### Workshops

- [W4] **G. Ramponi**, A. Concetti, A. M. Metelli, M. Restelli “Online Learning in Non-Cooperative Configurable Markov Decision Process ”,  
Workshop on Reinforcement Learning in Games at AAAI Conference 2021
- [W3] A. Likmeta, A. M. Metelli, **G. Ramponi**, A. Tirinzoni, M. Giuliani, M. Restelli “Handling Non-Stationary Experts in Inverse Reinforcement Learning: A Water System Control Case Study”,  
Challenges of Real World Reinforcement Learning Workshop at Conference on Neural Information Processing Systems, NeurIPS, 2020
- [W2] **G. Ramponi**, M. Restelli, “Newton-based Policy Optimization for Games”,  
<https://arxiv.org/abs/2007.07804>  
CooperativeAI Workshop at Conference on Neural Information Processing Systems, NeurIPS, 2020
- [W1] M. Di Giovanni, M. Brambilla, S. Ceri, F. Daniel, **G. Ramponi** “ Content-based Classification of Political Inclinations of Twitter Users”  
<https://ieeexplore.ieee.org/abstract/document/8622040/>  
Proceeding of IEEE Big Data 2018 - Workshop on Application of Big Data for computational social science, 2018

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3/6

## Journals

[J2] A. Likmeta, A. M. Metelli, **G. Ramponi**, A. Tirinzoni, M. Giuliani, M. Restelli “Dealing with multiple experts and non-stationarity in inverse reinforcement learning”, to be published at Machine Learning Journal

[J1] **G. Ramponi**, M. Brambilla, S. Ceri, F. Daniel, M. Di Giovanni, “Content-based characterization of online social communities”,  
<https://www.sciencedirect.com/science/article/pii/S0306457319303516>  
Information Processing & Management 2019

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## Scientific Activities

- Program Committee and Reviewer: DSAA (2019), ECAI (2020), NeurIPS (2020,2021), AAAI (2020), ICLR (2021), IJCAI (2021), AISTATS (2021), ICML (2021), ALA (2021)
- Journal Reviewer: Pattern Recognition Letters, Journal of Web Engineering

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## Teaching Experiences

- 2019 **Teaching Assistant**, for *Theoretical Foundation of Computer Science* at the second year of BSc in Computer Engineering, at Politecnico di Milano.
- 2018 **Teaching Assistant**, for *Domain Specific Modeling* at the second year of MSc in Computer Engineering, at Politecnico di Milano.
- 2018 **Teaching Assistant**, for *Informatica A* at the BSc in Management Engineering, at Politecnico di Milano.
- 2018 **Teaching Assistant**, for *Theoretical Foundation of Computer Science* at the second year of BSc in Computer Engineering, at Politecnico di Milano.
- 2017 **Teaching Assistant**, for *Fundamentals of Computer Science* at the second year at the second year of BSc in Math, at La Sapienza University of Rome.

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## Student Supervision

- Giovanni Brena, “Modeling and profiling of users based on news-sharing behavior on Social Networks ”, MSc in Computer Science and Engineering December 2018
- Paola Sanfilippo, “Understanding user similarity from social media using topic analysis ”, MSc in Computer Science and Engineering April 2019
- Federico Betti, “Controlled text generation with adversarial learning”, MSc in Computer Science and Engineering December 2019
- Massimo Perini, “Dynamic graph embedding on event streams” , MSc in Computer Science and Engineering December 2019
- Gianluca Drappo, “Gradient-based approach to Inverse Reinforcement Learning observing a non-expert demonstrator”, MSc in Computer Science and Engineering December 2020
- Davide Spinelli, “Opponent Identification in Multi-Agent Reinforcement Learning” , MSc in Computer Science and Engineering December 2019

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## Working experiences

2017 **FaStyle data analyst and machine learning expert.**

- FaStyle is a virtual assistant to book services in beauty salons. In the FaStyle startup I created a tool to personalise discounts looking at users interests.

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## Other activities

2015 **Google Technologies for Cloud and Web Development.**

- Proposal, design, and development of an Android and iOS application using Google technologies. The aim of the app is broadcasting the parking information of the shared cars among the members of the family.  
Staff: Yossi Matias (Google Tel-Aviv), Shir Landau-Febish (Tel-Aviv University), Misha Seltzer (Google Tel-Aviv)

2016-2017 **Foreign student assistant.**

- Assistant for foreign students who want to attend MSc in Computer Science at La Sapienza University of Rome

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## Computer skills

- **Programming languages:** Java, ML, Python, SQL, C, C++, MathLab, Assembly, PHP, Swift
- **Frameworks:** Tensorflow, Keras, Torch

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5/6