

Andrea Celli

Generated on May 8, 2024

Employment

Assistant Professor <i>Bocconi University, Computing Sciences Department</i>	Milan September 2021 – Present
Postdoctoral researcher <i>Facebook Core Data Science</i>	London June 2020 – June 2021
Postdoctoral researcher <i>Politecnico di Milano</i>	Milan November 2019 – May 2020
Other Affiliations.....	
Research Affiliate <i>Bocconi Institute for Data Science and Analytics</i>	September 2021 – Present
Member <i>European Laboratory for Learning and Intelligent Systems (ELLIS)</i>	October 2021 – Present

Education

Politecnico di Milano <i>PhD in Computer Science</i>	Milan 2016 – February 2020
Carnegie Mellon University <i>Visiting Scholar</i>	Pittsburgh Jan 2018 – May 2018
Politecnico di Milano <i>MSc in Computer Science and Engineering, Grade: 110 cum laude/110</i>	Milan 2014 – 2016
Politecnico di Milano <i>BSc in Computer Science and Engineering, Grade: 110 cum laude/110</i>	Milan 2011 – 2014

Publications

Conference Papers.....

- [C1] M. Castiglioni, **A. Celli**, C. Kroer, "Online learning under budget and roi constraints via weak adaptivity," in *ICML (accepted for publication)*, 2024.
- [C2] M. Bernasconi, M. Castiglioni, **A. Celli**, F. Fusco, "No-regret learning in bilateral trade via global budget balance," in *STOC (accepted for publication)*, 2024.
- [C3] M. Bernasconi, M. Castiglioni, **A. Celli**, F. Fusco, "Bandits with replenishable knapsacks: The best of both worlds," in *ICLR (accepted for publication)*, 2024.
- [C4] B. Zhang, G. Farina, I. Anagnostides, "Computing optimal equilibria and mechanisms via learning in zero-sum extensive-form games," in *NeurIPS*, 2023.
- [C5] M. Bernasconi, M. Castiglioni, **A. Celli**, A. Marchesi, F. Trovò, N. Gatti, "Optimal rates and efficient algorithms for online bayesian persuasion," in *ICML*, 2023.
- [C6] V. Avadhanula, **A. Celli**, R. Colini-Baldeschi, S. Leonardi, M. Russo, "Fully dynamic online selection through online contention resolution schemes," in *AAAI*, 2023.
- [C7] M. Castiglioni, **A. Celli**, A. Marchesi, G. Romano, N. Gatti, "A unifying framework for online optimization with long-term constraints," in *NeurIPS*, 2022.
- [C8] M. Castiglioni, **A. Celli**, C. Kroer, "Online learning with knapsacks: The best of both worlds," in *ICML*, 2022.

- [C9] B. Zhang, G. Farina, **A. Celli**, T. Sandholm, "Optimal correlated equilibria in general-sum extensive-form games: Fixed-parameter algorithms, hardness, and two-sided column-generation," in *EC*, 2022.
- [C10] I. Anagnostides, G. Farina, C. Kroer, **A. Celli**, T. Sandholm, "Faster no-regret learning dynamics for extensive-form correlated and coarse correlated equilibria," in *EC*, 2022.
- [C11] G. Birmpas, **A. Celli**, R. Colini-Baldeschi, S. Leonardi, "Fair equilibria in sponsored search auctions: The advertisers' perspective," in *IJCAI*, 2022.
- [C12] **A. Celli**, R. Colini-Baldeschi, C. Kroer, E. Sodomka, "The parity ray regularizer for pacing in auction markets," in *TheWebConf*, 2022.
- [C13] G. Farina, **A. Celli**, N. Gatti, T. Sandholm, "Connecting optimal ex-ante collusion in teams to extensive-form correlation: Faster algorithms and positive complexity results," in *ICML*, 2021.
- [C14] M. Castiglioni, A. Marchesi, **A. Celli**, N. Gatti, "Multi-receiver online bayesian persuasion," in *ICML*, 2021.
- [C15] M. Castiglioni, **A. Celli**, A. Marchesi, N. Gatti, "Signaling in bayesian network congestion games: The subtle power of symmetry," in *AAAI*, 2021.
- [C16] F. Cacciamani, **A. Celli**, M. Ciccone, N. Gatti, "Multi-agent coordination in adversarial environments through signal mediated strategies," in *AAMAS*, 2021.
- [C17] **A. Celli**, A. Marchesi, G. Farina, N. Gatti, "No-regret learning dynamics for extensive-form correlated equilibrium," in *NeurIPS (Oral presentation and best paper award)*, also appeared at *Highlights Beyond EC '21 and IJCAI SCBP '21*, 2020.
- [C18] M. Castiglioni, **A. Celli**, A. Marchesi, N. Gatti, "Online bayesian persuasion," in *NeurIPS (Spotlight presentation)*, 2020.
- [C19] **A. Celli**, S. Coniglio, N. Gatti, "Private bayesian persuasion with sequential games," in *AAAI*, 2020.
- [C20] M. Castiglioni, **A. Celli**, N. Gatti, "Persuading voters: It's easy to whisper, it's hard to speak loud," in *AAAI*, 2020.
- [C21] **A. Celli**, A. Marchesi, T. Bianchi, N. Gatti, "Learning to correlate in multi-player general-sum sequential games," in *NeurIPS*, 2019.
- [C22] **A. Celli**, S. Coniglio, N. Gatti, "Computing optimal ex ante correlated equilibria in two-player sequential games," in *AAMAS*, 2019.
- [C23] **A. Celli**, G. Romano, N. Gatti, "Personality-based representations of imperfect-recall games," in *AAMAS (Extended Abstract)*, 2019.
- [C24] G. Farina, **A. Celli**, N. Gatti, T. Sandholm, "Ex ante coordination and collusion in zero-sum multi-player extensive-form games," in *NeurIPS*, 2018.
- [C25] **A. Celli** and N. Gatti, "Computational results for extensive-form adversarial team games," in *AAAI*, 2018.
- [C26] **A. Celli**, A. Marchesi, N. Gatti, "On the complexity of nash equilibrium reoptimization," in *UAI*, 2017.
- [C27] N. Basilico, **A. Celli**, G. De Nittis, N. Gatti, "Team-maxmin equilibrium: Efficiency bounds and algorithms," in *AAAI*, 2017.
- [C28] N. Basilico, **A. Celli**, G. D. Nittis, N. Gatti, "Coordinating multiple defensive resources in patrolling games with alarm systems," in *AAMAS*, 2017.

Journal Papers.....

- [J1] M. Castiglioni, **A. Celli**, N. Gatti, "Public bayesian persuasion: Being almost optimal and almost persuasive," *Algorithmica*, 2023.
- [J2] M. Castiglioni, **A. Celli**, A. Marchesi, N. Gatti, "Regret minimization in online bayesian persuasion: Handling adversarial receiver's types under full and partial feedback models," *Artificial Intelligence Journal (AIJ)*, 2023.
- [J3] G. Farina, **A. Celli**, A. Marchesi, N. Gatti, "Simple uncoupled no-regret learning dynamics for extensive-form correlated equilibrium," *Journal of the ACM*, 2022.

- [J4] **A. Celli** and A. Marchesi, "Learning dynamics in limited-control repeated games," *Intelligenza Artificiale*, 2018.
- [J5] N. Basilico, **A. Celli**, G. D. Nittis, N. Gatti, "Computing the team-maxmin equilibrium in single-team single-adversary team games," *Intelligenza Artificiale*, 2017.

Workshop Papers.....

- [W1] M. Castiglioni, **A. Celli**, A. Marchesi, G. Romano, N. Gatti, "A unifying framework for online optimization with long-term constraints," in *NeurIPS ML Safety workshop*, 2022.
- [W2] B. Zhang, G. Farina, **A. Celli**, T. Sandholm, "Optimal correlated equilibria in general-sum extensive-form games: Fixed-parameter algorithms, hardness, and two-sided column-generation," in *ICLR, Workshop on Gamification and Multiagent Solutions*, 2022.
- [W3] G. Farina, **A. Celli**, N. Gatti, T. Sandholm, "Connecting optimal ex-ante collusion in teams to extensive-form correlation: Faster algorithms and positive complexity results," in *AAAI, Workshop on Reinforcement Learning in Games*, 2022.
- [W4] **A. Celli**, R. Colini-Baldeschi, C. Kroer, E. Sodomka, "The parity ray regularizer for pacing in auction markets," in *Sixth Marketplace Innovation Workshop (MIW)*, 2021.
- [W5] G. Farina, **A. Celli**, N. Gatti, T. Sandholm, "Faster algorithms for optimal ex-ante coordinated collusive strategies in extensive-form zero-sum games," in *AAAI, Workshop on Reinforcement Learning in Games*, 2021.
- [W6] M. Castiglioni, **A. Celli**, A. Marchesi, N. Gatti, "Online bayesian persuasion," in *AAAI, Workshop on Reinforcement Learning in Games*, 2021.
- [W7] **A. Celli**, A. Marchesi, G. Farina, N. Gatti, "No-regret learning dynamics for extensive-form correlated equilibrium," in *AAAI, Workshop on Reinforcement Learning in Games*, 2021.
- [W8] **A. Celli**, A. Marchesi, G. Farina, N. Gatti, "No-regret learning dynamics for extensive-form correlated equilibrium," in *NeurIPS, Cooperative AI Workshop*, 2020.
- [W9] F. Cacciamani, **A. Celli**, M. Ciccone, N. Gatti, "Multi-agent coordination through signal mediated strategies," in *NeurIPS, Cooperative AI Workshop*, 2020.
- [W10] G. Farina, **A. Celli**, N. Gatti, T. Sandholm, "Faster algorithms for optimal ex-ante coordinated collusive strategies in extensive-form zero-sum games," in *NeurIPS, Cooperative AI Workshop*, 2020.
- [W11] **A. Celli**, A. Marchesi, T. Bianchi, N. Gatti, "Learning to correlate in multi-player general-sum sequential games," in *NeurIPS, Smooth Games Optimization and Machine Learning Workshop*, 2019.
- [W12] G. Farina, **A. Celli**, N. Gatti, T. Sandholm, "Ex ante coordination in team games," in *AAAI, Workshop on Reinforcement Learning in Games*, 2019.
- [W13] **A. Celli** and A. Marchesi, "Nash equilibrium reoptimization is hard," in *IJCAI, Algorithmic Game Theory Workshop*, 2017.
- [W14] N. Basilico, **A. Celli**, G. D. Nittis, N. Gatti, "Coordinating multiple defensive resources in patrolling games with alarm systems," in *AAMAS, Workshop on Adversarial Reasoning in Multi-Agent Systems*, 2017.

Teaching

- Deep Learning and Reinforcement Learning (M.Sc. class), Professor
Spring 2024
- Machine Learning, Bocconi University (B.Sc. class), Professor
Spring 2023, Spring 2024
- Optimization, Bocconi University (Ph.D. in Statistics and Computer Dcience), Professor
Fall 2021, Fall 2022, Fall 2023
- Algorithms, Bocconi University (M.Sc. class), Professor
Spring 2022

- Computer Programming and Database Systems, Bocconi University (M.Sc. class), Professor
Fall 2021, Fall 2022
- Game Theory, Politecnico di Milano (M.Sc.), TA 2019–2020
- Informatica A, Politecnico di Milano (B.Sc.), TA '18–'19, '19–'20
- Economics and Computation, Politecnico di Milano (M.Sc.), TA '17–'18, '18–'19

Other courses

- Race Strategies Computation, Ferrari S.p.A. 2019

Honors and Awards

- NeurIPS 2020 Best Paper Award 2020
- Lesmo Award for the best Italian MSc Thesis in Artificial Intelligence 2017
- National Doctoral Scholarship 2016–2019
Sponsored by the Ministry of Education, Universities and Research

Invited Talks and Seminars

- ENSAE, Seminar of the Statistics and Economics Department, Paris 2023
- Criteo's AI Labs, Paris 2023
- Workshop on Game Theory and Machine Learning, London School of Economics 2023
- Workshop "Learning in games", Institute for Mathematical Sciences, Singapore 2023
- London School of Economics Seminar Series on Combinatorics, Games and Optimisation 2022
- ELLIS Milan Artificial Intelligence workshop 2022
- INFORMS session on Operations Research at Facebook 2021
- Algorithmic Bayesian Persuasion 2021
At the explAI workshop (Virtual)
- No-Regret Learning Dynamics for Extensive-Form Correlated Equilibrium 2021
At Facebook London ML Seminars (Virtual)
- No-Regret Learning Dynamics for Extensive-Form Correlated Equilibrium 2021
At Facebook Economics, Algorithms and Optimization Seminars (Virtual)
- No-Regret Learning Dynamics for Extensive-Form Correlated Equilibrium 2021
At Coveo ML Seminars (Virtual)
- Bayesian Persuasion in Voting Scenarios 2019
At MAPLE'19 (Markets, Algorithms, Prediction and Learning) in Milan
- Adversarial Team Games 2017
At the International Conference of the Italian Association for Artificial Intelligence
- Bayesian Persuasion 2017
At Politecnico di Milano, Permanent Itinerant Game Theory Seminars (P.I.G.S.)
- Adversarial Team Games 2017
At University of Milan-Bicocca, Permanent Itinerant Game Theory Seminars (P.I.G.S.)

Service

- **PC:** AAAI ('18–'23), ECAI ('20), IJCAI ('20–'23), NeurIPS ('20–'23), WINE ('21), ICML ('22, '23).
- **Reviewing:** AAMAS ('17), IJCAI ('17-'19), TheWebConf ('20), ICML ('21), EC ('21–'22), SODA ('23), Journal of Economic Theory ('22), Management Science ('22)

External Funding

- **2023-2025:** MIUR PRIN Project “Targeted Learning Dynamics: Computing Efficient and Fair Equilibria through No-Regret Algorithms”.
- **2022-2023:** “Multi-agent learning and equilibrium (EquiLearn)” funded by Civica Research. With Galit Ashkenazi-Golan, Katerina Papadaki, Bernhard von Stengel (PI), and Mark Voorneveld.

Organization of International Events

- **2023:** Co-organizer of the “Algorithms, Learning, and Games” (ALGA) workshop, June 5-9 2023, Scicli (Italy).

Organization of Internal Events

- **2023:** ELLIS Pre-NeurIPS Fest: poster session of the Milan ELLIS unit held at Bocconi

Programming and Frameworks

- Programming languages: Python, Java, C, R
- Optimization frameworks: AMPL, CPLEX, Gurobi, Xpress

Languages

- Italian: mother tongue
- English: proficient user
 - IELTS Academic, Overall band score 8 (level C2) 2013

Autorizzo al trattamento dati ai sensi del GDPR 2016/679 del 27 aprile 2016 (Regolamento Europeo relativo alla protezione delle persone fisiche per quanto riguarda il trattamento dei dati personali). Autorizzo la pubblicazione del Curriculum Vitae sul sito istituzionale dell'Università degli Studi di Roma “La Sapienza” (portale trasparenza) in ottemperanza al D. Lgs n. 33 del 14 marzo 2013 (e s.m.i.).