Gianmarco Genalti

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LinkedIn:
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Summary

Gianmarco Genalti is a Postdoctoral Researcher (*Contrattista di Ricerca*) at the Department of Electronics, Information and Bioengineering (DEIB) of Politecnico di Milano. He received his PhD cum laude in Data Analytics and Decision Sciences from Politecnico di Milano in February 2026, with a thesis titled Multi-Armed Bandits in Dynamic Environments and Heavy-Tailed Rewards. His doctoral studies included a semester as a visiting researcher at the CREST institute of ENSAE in Paris, France. Before pursuing his PhD, he worked as a Data Scientist for Philip Morris International (Switzerland) and ML cube (Italy), developing tools for the dynamic pricing of products. Motivated by these industry applications, his research now bridges theory and practice in multi-armed bandits, online learning, and reinforcement learning, with regular publications in premier conferences like NeurIPS, ICML, COLT, and AISTATS. During his PhD, he also served as an AI research scientist and task leader on several public and industry-funded projects, contributing to €1.5 million in institutional funding. He is currently main organizer of the sixth Reinforcement Learning Summer School (RLSS), to be hosted at Politecnico di Milano in June 2026.

Academic Experience

Postdoctoral Researcher (Contratto di Ricerca) **Mar 2026 — Present**
Politecnico di Milano, Department of Electronics, Information and Bioengineering. Milan, Italy
Research Programme: *Unified Learning from Diverse Human Feedback*
Research Manager: Prof. Alberto Maria Metelli

Visiting Researcher **Mar 2025 — May 2025**
École nationale de la statistique et de l'administration économique (ENSAE). Paris, France
Member of the FairPlay team in the Center for Research in Economics and Statistics (CREST) of ENSAE.
Research Programme: *Learning-Augmented Online Algorithms for Scheduling*
Research Manager: Prof. Vianney Perchet.

Research Fellow (Assegno di Ricerca) **Jan 2022 — Nov 2022**
Politecnico di Milano, Department of Management. Milan, Italy
Research Programme: *Artificial intelligence: applications to support process engineering*
Research Manager: Prof. Giovanni Miragliotta

Education

Ph.D. in Data Analytics and Decision Sciences **Nov 2022 — Feb 2026**
Politecnico di Milano, Department of Electronics, Information and Bioengineering. Milan, Italy
Thesis title: *Multi-Armed Bandits in Dynamic Environment and Heavy-Tailed Rewards*
Awarded on 25 Februrary 2026 **with honors** (*cum laude*)
Supervisor: Prof. Nicola Gatti, Co-Supervisor: Prof. Nicolò Cesa-Bianchi (University of Milan)
Tutor: Prof. Stefano Ceri
Reviewers: Prof. Tom Cesari (University of Ottawa), Prof. Kyoungseok Jang (Chung-Ang University)

M. Sc. in Mathematical Engineering - Statistical Learning major **Sep 2019 — Dec 2021**
Politecnico di Milano Milan, Italy
Relevant Coursework: Mathematical Analysis, Algebra, Machine Learning, Statistics, Optimization, Game Theory
Thesis title: *A Multi-Armed Bandit Approach to Dynamic Pricing.*
Supervisor: Prof. Nicola Gatti, Co-Supervisors: Prof. Marco Mussi, Dott. Alessandro Nuara

B. Sc. in Mathematical Engineering **Sep 2016 — Mar 2020**
Politecnico di Milano Milan, Italy
Thesis title: *A MiniMax Theorem applications to Machine Learning and Portfolio Optimization.*
Supervisor: Prof. Daniele Marazzina

High School Diploma **Sep 2011 — Jul 2016**
Liceo Scientifico Francesco Redi Arezzo, Italy

Professional Experience

Applied Scientist **Mar 2021 — Dec 2021**
ML cube Milan, Italy

- Part of a consultancy project for an e-commerce aimed at developing an AI product for the **dynamic pricing of 11000+ products**.
- Achieved **+12.38% in profits** with a Bayesian Online Learning model I've fully deployed and largely contributed formulation.
- Performed research on Online Learning and Multi-Armed Bandits applications to business, **produced two papers accepted at SIGKDD 2022 and IAAI 2023, respectively**.

Data Scientist **Aug 2020 — Jan 2021**
Philip Morris International Lausanne, Switzerland

- Full stack development of an innovative machine learning model based on prices elasticities for sales time series forecasting.
- Deployed a dynamic pricing policy potentially achieving **+8% of yearly revenue** (about **1.5 millions of francs**) in Swiss Market.
- Performed full production of the model by developing a GUI with Flask used by the business team (5 people).

Publications

Scientific Impact

- International Conferences: Author/Co-Author of **11 publications** in peer-reviewed international conferences, including **NeurIPS (2), ICML (2), COLT (2), AISTATS (2), KDD (1)**.
- International Journals: Author/Co-Author of **2 publications** in peer-reviewed international journals, in **JMLR** and **BMJ Open**, both **Q1 according to Scimago Journal Rank**.

Publications Impact

- Google Scholar: citations **107** h-index **6** i10-index **3**
- Scopus: citations **31** h-index **3**

(Updated March 2026)

Personal Awards and Recognitions

Research Awards

Winner of the Italian Ministerial PhD Scholarship **Nov 2022**
Ministero dell'Istruzione dell'Università e della Ricerca (MIUR) Milan, Italy
Research project title: *Multi-armed Bandits in Dynamic Environments and Heavy-Tailed Rewards*

Recipient of the Junior Scientific Visibility Grant **Feb 2025**
Fondation Mathématique Jacques Hadamard (FMJH) Paris, France
Research project title: *Learning-Augmented Online Scheduling Algorithms*
Amount: €2300

Conference Recognitions

Oral Presentation at KDD 2022 (top 7%) **Aug 2022**
SIGKDD Conference on Knowledge Discovery and Data Mining Washington D.C., U.S.A.
Best 54 out of 753 papers (top 7%) of KDD 2022 (ranked A++)

Deployed Application Award 2023 **Feb 2023**
Annual Conference on Innovative Applications of Artificial Intelligence (IAAI) Vancouver, Canada
Competitions Awards

Winner of the 2017 Social Hackathon **Dec 2017**
Confcooperative Piacenza Piacenza, Italy
Project title: *CareCam, an infrared cam to monitor domestic incidents for elderly people*
Link to local news.
Amount: €1000

Silver Medal at the Mechanism of Action Prediction Challenge **Dec 2020**
Kaggle Online
Link to competition page

Winner of the AI-powered Poker Tournament **Jul 2020**
Politecnico di Milano Milan, Italy
Tournament of AI agents playing poker held at Politecnico di Milano by Proff. Nicola Gatti and Alberto Marchesi
Qualified first among 10 teams
Link to code repository

Teaching Activity

Teaching Assistance Activity

Teaching Assistant of Online Learning and Applications **2024, 2026**
Politecnico di Milano Milan, Italy
5 CFU - M. Sc. in Computer Science and Engineering and M. Sc. in Mathematical Engineering
Avg no. of students: ∼100 - no. of hours: 10
Lecturer: Prof. Matteo Castiglioni

Teaching Assistant of Statistical Models and Stochastic Processes **2023, 2024, 2025**
Politecnico di Milano Milan, Italy
8 CFU - M. Sc. in Environmental Engineering
Avg no. of students: ∼120 - no. of hours: 30
Lecturer: Prof. Ilenia Epifani

Teaching Activity for Professional Audience

Lecturer of Applied Statistics and Data Science **Feb 2026 — Present**
European National Competition Authorities (NCAs) Online
Course erogated online to the technical staff of 15 european NCAs
Funded by the European Commission through the project *DICE*
Avg no. of students: ∼40 - no. of hours: 12

Lecturer of Machine Learning for Predictive Maintainance **Sep 2022**
Terranova Software Milan, Italy
No. of hours: 4

Lecturer of Data Ethics and Fairness in AI **Jul 2022**
Wisee Milan, Italy
No. of hours: 4

Teaching Activity for Students Associations

Lecturer of Fundamentals of Python Programming **2020, 2021**
Association of Mathematical Engineers Milan, Italy
Avg no. of students: ∼50 - no. of hours: 10

Projects

Competitive Public Projects

DICE – Supporting Digital Transformation in Competition Law Enforcement **Nov 2025 — Present**
Technical Support Instrument
Role: **Task Leader** and **Teaching Faculty**
Topic: supporting Digital Transformation in competition law enforcement
Funding Institutions: European Union and Digital 28, Principal Investigator: Prof. Nicola Gatti
Budget: €700.000 (to Politecnico di Milano), Duration: 24 months

LUCE – LUtech Campus Ecosystem **Jan 2024 — Dec 2024**
Programma Operativo della Regione Puglia 2014-2020
Role: **AI Research Scientist**
Topic: creation of a platform to support startup ecosystems
Funding Institutions: Regione Puglia and Lutech, Principal Investigator: Prof. Nicola Gatti
Budget: €200.000 (to Politecnico di Milano)

Industry Funded Research Projects

Miniconf SpA **May 2025 — Present**
Calibration of Human Sales Forecasting through Machine Learning
Role: **Project Manager** and **Senior AI Research Scientist**, Principal Investigator: Prof. Nicola Gatti
Budget: €84.000 (to Politecnico di Milano)

TaDa Srl **Jan 2025 — Nov 2025**
Machine Learning for Non-Intrusive Load Monitoring
Role: **AI Research Scientist**, Principal Investigator: Prof. Marcello Restelli
Budget: €60.000 (to Politecnico di Milano)

Snaitech SpA **May 2022 — Apr 2024**
Reinforcement Learning for Odds Selection in Sport Betting
Role: **AI Research Scientist**, Principal Investigator: Prof. Nicola Gatti
Budget: €200.000 (to Politecnico di Milano)

Agrati SpA **Jan 2022 — Dec 2024**
Artificial Intelligence in Process Engineering
Role: **AI Research Scientist**, Principal Investigators: Proff. Nicola Gatti and Giovanni Miragliotta
Budget: €180.000 (to Politecnico di Milano)

Terranova Software Srl **Jan 2022 — May 2023**
Forecasting gas demand and optimizing set-point pressure for gas distribution networks
Role: **AI Research Scientist**, Principal Investigator: Prof. Nicola Gatti
Budget: €20.000 (to Politecnico di Milano)

Talks and Seminars

Invited Talks and Seminars

Invited Talk **Dec 2024**
Confindustria Toscana Sud Arezzo, Italy
Presentation of the joint B. Sc. program between Politecnico di Milano and University of Arezzo

Seminar **Sep 2023**
RL3 group, Politecnico di Milano Milan, Italy
Title: *Towards Fully Adaptive Regret Minimization in Heavy-Tailed Bandits*

Talks in International Conferences and Workshops

Conference Talk **Jul 2025**
The 38th Annual Conference on Learning Theory (COLT 2025, ranking A++) Lyon, France
Title: *Open Problem: Open Problem: Regret Minimization in Heavy-Tailed Bandits with Unknown Distributional Parameters*

Conference Talk **Jul 2024**
The 37th Annual Conference on Learning Theory (COLT 2024, ranking A++) Edmonton, Canada
Title: (ϵ, u)*-Adaptive Regret Minimization in Heavy-Tailed Bandits*

Workshop Talk **Sep 2023**
The 15th European Workshop on Reinforcement Learning (EWRL 2022) Milan, Italy
Title: *Dynamic Pricing with Online Data Aggregation and Learning*

Conference Talk **Aug 2022**
SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2022, ranking A++) Milan, Italy
Title: *Pricing the long tail by explainable product aggregation and monotonic bandits*

Poster Presentations at International Conferences and Workshops

AISTATS 2026 - 1 poster
NeurIPS 2025 - 2 posters
ARLET 2025 - 1 poster
ICML 2024 - 2 posters
COLT 2024 - 1 poster
AISTATS 2024 - 1 poster
EWRL 2023 - 2 posters
EWRL 2022 - 2 poster
KDD 2022 - 1 poster

Activities and Services

Organization Activities

Main Organizer of the 6th Reinforcement Learning Summer School (RLSS 2026) **Jan 2024 — Jun 2026**
Politecnico di Milano and University of Milan Milan, Italy
Attendance ∼150
Link to the event

Member of the Directory Board of Association of Mathematical Engineers (AIM) **Jun 2019 — Jun 2021**
Politecnico di Milano Milan, Italy
AIM is the largest students association of Politecnico di Milano (∼3000 members)
Elected by students, responsible for IT operations and organization of several networking events

Reviewer for International Conferences, Journals and Workshops

International Conferences
NeurIPS: 2025 (4), 2023 (1)
ICML: 2026 (6), 2025 (5), 2024 (6)
AISTATS: 2026 (4)
AAAI: 2025 (6)
ICLR: 2025 (2), 2024 (2)

International Journals
Transactions on Machine Learning Research (TMLR): 2024 (1)
Transaction on Neural Networks and Learning Systems: 2025 (1), 2023 (1)
Machine Learning Journal: 2023 (1)

Students Supervision

Co-Supervised M. Sc. Theses in Politecnico di Milano

Forecasting gas demand and optimizing set-point pressure for efficient gas distribution networks (Davide Cairoli). May 2023.
Stochastic linear bandits with global-local structure (Francesco Fulco Gonzales). May 2023.
Towards fully-adaptive regret minimization in heavy-tailed bandits (Lupo Marsigli). October 2023.
Multi-armed bandits for joint pricing and advertising (Vittorio Arianna). October 2023.
An Online Learning Algorithm for Real-Time Bidding (Marco Bonalumi). December 2023.
Designing a Reinforcement Learning-Based System for Optimal Odds Selection in Sports Betting (Marco Lucchini). December 2023.
Planning in Manufacturing with Data-driven Heuristics (Gabriele Corbo). December 2023.
A machine learning approach to funding rounds prediction in startups (Fabio Raffaeli). December 2024.
A theory-driven approach to Large Language Models alignment with human feedback (Michele Simeone). April 2025.
Towards closing the gap in Restless Rising Bandits (Cristiano Migali). July 2025.

List of Publications

Reported rankings are the most recent up to the date of the publication. Authors marked with * contributed equally.

[**JMLR26**] Gianmarco Genalti, Marco Mussi, Nicola Gatti, Marcello Restelli, Matteo Castiglioni, Alberto Maria Metelli. Bridging Rested and Restless Bandits with Graph-Triggering: Rising and Rotting. In Journal of Machine Learning Research (JMLR), Accepted with minor revision. **Q1** Scimago 2024.

[**AISTATS26**] Gianmarco Genalti, Sujay Bhatt, Nicola Gatti, Alberto Maria Metelli. Catoni-Style Change Point Detection for Regret Minimization in Piecewise-Stationary Heavy-Tailed Bandits. In International Conference on Artificial Intelligence and Statistics (AISTATS), Accepted, 2026.

[**NeurIPS25a**] Gianmarco Genalti*, Francesco Emanuele Stradi*, Matteo Castiglioni, Alberto Marchesi, Nicola Gatti. "Data-Dependent Regret Bounds for Constrained MABs". In **Annual Conference on Neural Information Processing Systems (NeurIPS)**, 2025. **Acceptance rate: 5290/21575 (24.5%)**. **A*** Core Ranking 2023.

[**NeurIPS25b**] Cristiano Migali, Marco Mussi, Gianmarco Genalti, Alberto Maria Metelli. "Tightening Regret Lower and Upper Bounds in Restless Rising Bandits". In **Annual Conference on Neural Information Processing Systems (NeurIPS)**, 2025. **Acceptance rate: 5290/21575 (24.5%)**. **A*** Core Ranking 2023.

[**COLT25**] Gianmarco Genalti and Alberto Maria Metelli. "Open Problem: Regret Minimization in Heavy-Tailed Bandits with Unknown Distributional Parameters". In **Annual Conference on Learning Theory (COLT)**, volume 291 of *Proceedings of Machine Learning Research*, pages 1-5. PMLR, 2025. **A*** Core Ranking 2023.

[**COLT24**] Gianmarco Genalti, Lupo Marsigli, Nicola Gatti and Alberto Maria Metelli. "(ϵ, u)-Adaptive Regret Minimization in Heavy-Tailed Bandits". In **Annual Conference on Learning Theory (COLT)**, volume 247 of *Proceedings of Machine Learning Research*, pages 1882-1915. PMLR, 2024. **Acceptance rate: 160/448 (35.7%)**. **A*** Core Ranking 2023.

[**ICML24a**] Gianmarco Genalti, Marco Mussi, Nicola Gatti, Marcello Restelli, Matteo Castiglioni, Alberto Maria Metelli. "Graph-Triggered Rising Bandits". In **International Conference on Machine Learning (ICML)**, volume 235 of *Proceedings of Machine Learning Research*, pages 15351-15380. PMLR, 2024. **Acceptance rate: 2609/9473 (27.5%)**. **A*** Core Ranking 2023.

[**ICML24b**] Jacopo Germano, Francesco E. Stradi, Gianmarco Genalti, Matteo Castiglioni, Alberto Marchesi, Nicola Gatti. "Online Learning in CMDPs: Handling Stochastic and Adversarial Constraints". In **International Conference on Machine Learning (ICML)**, volume 235 of *Proceedings of Machine Learning Research*, pages 46692-46721. PMLR, 2024. **Acceptance rate: 2609/9473 (27.5%)**. **A*** Core Ranking 2023.

[**AISTATS24**] Francesco Bacchiocchi*, Gianmarco Genalti*, Davide Maran*, Marco Mussi*, Marcello Restelli, Nicola Gatti and Alberto Maria Metelli. "Autoregressive Bandits". In **International Conference on Artificial Intelligence and Statistics (AISTATS)**, volume 238 of *Proceedings of Machine Learning Research*, pages 937-945. PMLR, 2024. **Acceptance rate: 596/1980 (30.1%)**. **A** Core Ranking 2023.

[**IJCAI24**] Gianmarco Genalti, Gabriele Corbo, Tommaso Bianchi, Marco Missaglia, Luca Negri, Andrea Sala, Luca Magri, Giacomo Boracchi, Giovanni Miragliotta, Nicola Gatti. "Enhancing Manufacturing with AI-powered Process Design". In

International Joint Conference on Artificial Intelligence (IJCAI), *Proceedings of the Thirty-Third International Joint Conference on Artificial Intelligence*, pages 8665-8668. 2024, **A*** Core Ranking 2023.

[**IAAI23**] Marco Mussi*, Gianmarco Genalti*, Alessandro Nuara, Francesco Trovò, Nicola Gatti and Marcello Restelli. "Dynamic Pricing with Volume Discounts in Online Settings". In **AAAI Conference on Artificial Intelligence: IAAI Technical Track on deployed Highly Innovative Applications of AI**, volume 37 of *Proceedings of the AAAI Conference on Artificial Intelligence, AAAI-23 Special Programs, IAAI-23, EAAI-23, Student Papers and Demonstrations*, pages 15560-15568. 2023. **B** Core Ranking 2021. **Winner of the 2023 IAAI Deployed Application Award from The Association for the Advancement of Artificial Intelligence (AAAI).**

[**KDD22**] Marco Mussi, Gianmarco Genalti, Francesco Trovò, Alessandro Nuara, Nicola Gatti and Marcello Restelli. "Pricing the Long Tail by Explainable Product Aggregation and Monotonic Bandits". In **SIGKDD Conference on Knowledge Discovery and Data Mining**, *Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*, pages 3623-3633. 2022. A* Core Ranking 2021. **Oral Presentation - 54/753 - top 7% of the accepted papers**.

[**BMJ21**] Marta Spreafico, Francesca Ieva, Francesca Arlati, Federico Capello, Federico Fatone, Filippo Fedeli, Gianmarco Genalti, Jakob Anninga, Hans Gelderblom, Marta Fiocco. 'Novel longitudinal Multiple Overall Toxicity (MOTox) score to quantify adverse events experienced by patients during chemotherapy treatment: a retrospective analysis of the MRC BO06 trial in osteosarcoma". In **BMJ open**, *2021;11:e053456. doi: 10.1136/bmjopen-2021-053456*. 2021. **Q1** Scimago 2021.