

Curriculum vitæ

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Academic Positions and Education

- **August 2023–today:** Full Professor at the Department of Economic Studies, University of Chieti–Pescara, Italy.
- **December 2015–July 2023:** Associate Professor at the Department of Economic Studies, University of Chieti–Pescara, Italy.
- **November, 2012–2015:** Assistant Professor at the Department of Economic Studies, University of Chieti–Pescara, Italy.
- **November, 2002–2012:** Assistant Professor at the Department of Sciences, University of Chieti–Pescara, Italy.
- **April 27, 2001:** PhD in Mathematics, University of Pisa, Italy.
- **May, 1995:** MSc in Mathematics, University of Rome “La Sapienza”, Italy, 110/110 summa cum laude.

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1 Scientific Activity

Volume of Scientific Output. 11 papers since 2024, and 48 papers since 2001. Listed in section 8.

Rate of Scientific Output. Average publication rate since 2024: $\frac{11}{15} \approx 0.73$ papers per month. Since 2001: $\frac{48}{24} = 2$ papers per year.

Consistency of Scientific Output. The scientific output has been continuous from 2010 to the present, for a total of 13 years. The gaps in 2011 and 2017 in the list of 48 publications are due to delays in publication times, as evidenced by [2 preprints on arXiv in 2011](#) and by [2 preprints on arXiv in 2017](#).

Of the aforementioned 48 works, 41 are indexed on Scopus, with a total of 434 citations and h -index 12. Average citations per paper: $\frac{434}{41} \approx 10.6$.

1.1 Research in Machine Learning and Life Sciences

My scientific activity has undergone significant evolution: in addition to my original area of interest (differential geometry), starting from 2018 I have developed a growing interest in machine learning, particularly in deep learning and reinforcement learning. Since 2022, I have also been working on geometric deep learning.

An initial informal research group on these topics, composed of mathematicians and computer scientists, has later on structured into a laboratory, named CurioSAI, which I co-direct with the scientific leader Francesco Morandin from the University of Parma. The laboratory relies on computational resources from the universities of Parma and Pescara, and currently includes twenty members among senior figures, junior figures, PhD students, and graduates from various universities and institutes.

The laboratory has a strongly interdisciplinary nature and develops both applied projects (in reinforcement learning, deep learning, biology, combinatorial games, finance, computational law) and theoretical ones, where we interpret and formalize phenomena that occur in reinforcement learning and in deep learning.

Below is more detail on the research projects I am currently following. The publications cited here are described in detail in section 8.

Mathematics of Machine Learning and Data Science. This research topic includes works [1](#), [2](#), [5](#), [7](#), [8](#), [23](#), [18](#), [15](#), and [14](#). In [1](#) we analyze how reinforcement learning can be used as a zero-order optimizer for large combinatorial problems. In [2](#), [5](#), [8](#), and [14](#) we study how to make neural networks more efficient, from diverse points of view. In [23](#) and [18](#) we study techniques for generating pseudo-random numbers through reinforcement learning; in [7](#) we propose an exploration algorithm in reinforcement learning and study its sample complexity; in [15](#) we propose an analogy between deterministic phenomena of high complexity and random phenomena of low complexity.

Mathematics and Modeling of Complex Phenomena. I am the advisor for eight PhD students in artificial intelligence.

One of them is working on two parallel projects: analyzing cellular properties through single-cell RNA data and designing an artificial pancreas by predicting glycemic dynamics. Both projects leverage deep learning and reinforcement learning.

Another student focuses on identifying mechanical properties in biomaterials, using hybrid systems that combine finite elements, deep learning, and reinforcement learning.

Natural Language Processing (NLP) is the focus of another student, particularly in investigating the properties of reinforcement learning with human feedback.

One PhD candidate is researching automated theorem proving through reinforcement learning, while another is studying the dynamics of parameters in deep learning models under Adam-like optimizers.

Another student is exploring the use of reinforcement learning as a zero-order optimizer for large combinatorial problems.

In collaboration with another PhD student, we developed a Go-playing AI, which has become one of the reference software in the Go community. This project is a variant of AlphaGo Zero and is detailed in [17](#), [19](#), [26](#).

Deep learning and reinforcement learning are also at the core of another student's research, applied to finance and, more broadly, to complex dynamical systems (see [3](#), [10](#), [4](#)).

Beyond these topics, I am also interested in computational law (see [11](#)).

1.2 Research in Differential Geometry and Other Fields

As mentioned, I maintain a strong interest in interdisciplinarity. I am highly active in differential geometry, and recently I have combined this interest with deep learning through **geometric deep learning**, see geometricdeeplearning.com. Geometric deep learning aims to provide solid mathematical and geometric foundations to deep learning, following the principles of the Erlangen program in geometry. Since 2022, I teach a yearly doctoral course on geometric deep learning, and in July 2022 I was the main organizer of the *First Italian School on Geometric Deep Learning*, see www.sci.unich.it/geodeep2022. Additionally, I spoke about geometric deep learning at the [CaLISTA kick-off meeting](#).

Below is a detailed description of my research interests other than machine learning, life sciences, and geometric deep learning, linked to the corresponding publications in section [8](#).

Differential Geometry. Specifically:

- Complex differential geometry and almost-complex structures ([20](#), [25](#), [27](#), [28](#), [30](#), [31](#), [32](#), [33](#), [34](#), [35](#), [37](#), [40](#), [42](#), [43](#), [44](#), [45](#)).
- Riemannian geometry and parallelizable manifolds ([21](#), [25](#), [45](#)).
- Geometry of structures that are locally conformal to special structures, for example locally conformally Kähler and locally conformally symplectic structures ([12](#), [21](#), [32](#), [35](#), [40](#), [41](#), [42](#), [44](#)).
- Clifford structures, particularly those connected to $\text{Spin}(9)$ and their extensions to Rosenfeld planes ([28](#), [30](#), [31](#), [34](#), [37](#)).
- Octonionic geometry, particularly its relationship with never-vanishing vector fields on spheres ([25](#), [28](#), [30](#), [33](#), [34](#), [37](#)).

Lie Groups and Algebras. I am interested in the invariant properties of the above geometric structures (21, 43).

Number Theory. I am passionate about the intersections of differential geometry with number theory, beautifully demonstrated by Oeljeklaus-Toma manifolds (20, 35). Finally, I am curiously investigating simple but still open problems like the existence of infinitely many weird prime numbers (24, 29).

Computer Science and Logic. Specifically, I have experience in the field of abstract interpretation and its intersections with geometry (36, 38, 39), and in assisted proof (22).

2 Direction and Participation in Research Projects

- Local investigator for “FRAIL - Fracture Risk evaluation in bone metastatic patients by Artificial Intelligence”, a National PRIN project (Italian research projects funded by ministry of education). 16 October 2023 - 16 October 2025. Ongoing.
- Principal investigator for the Artificial Intelligence task in FISR 2020 (*Fondo integrativo speciale per la ricerca*) project “A.I.A.CO. - Artificial Intelligence for contract law Against Covid-19”, funded by Italian government. 2021, ongoing.
- Delegate for the University of Chieti–Pescara’s national PhD program in artificial intelligence starting from 2021/2022, following a competitive call from CNR and the University of Pisa, Italy.
- Principal investigator of the research project “SAI: a Sensible Artificial Intelligence winning Weiqi games with arbitrary komi”, sponsored by “Qi Culture 8+X Projects”, China. 2018.
- Member of 5 Working Groups (WG) in the **COST Action CA21109** - “Cartan Geometry, Lie, Integrable Systems, Quantum Group Theories for Applications (CaLISTA)”. The COST program (European Cooperation in Science and Technology) is a Horizon program that provides networking opportunities for researchers and innovators to strengthen Europe’s ability to address scientific, technological, and societal challenges by funding excellence-oriented networks.
- Member of the European network “European Differential Geometry Endeavour” (EDGE, 2000-2004), HPRN-CT-2000-00101, from 2002 to 2004.

3 Talks at National and International Events

- **September 2023:** Invited speaker. Talk on “Improving performance on Neural Networks”, at CLADAG conference, special session on “Machine Learning and AI”, Salerno, Italy.
- **September 2023:** Invited speaker. Talk on “Reinforcement Learning and Mathematics”, at “XXII Congresso dell’Unione Matematica Italiana”, Pisa, Italy.
- **March 2023:** Invited speaker. Talk on “Machine Learning and Mathematics”, organized by the UMI Group on Artificial Intelligence and Machine Learning. Online.
- **January 2023:** Invited speaker. Talk at the School on “The mathematics of Machine Learning”, Centro De Giorgi, Pisa, Italy.

- **June 2022:** Invited speaker. Talk on “Reinforcement Learning and Mathematics”, research colloquium at University of Tubinga. Online.
- **May 2022:** Invited speaker. Talk on “Machine Learning and Mathematics”, organized by the UMI Group on Artificial Intelligence and Machine Learning. Online.
- **21 April 2022:** Moderator of a brainstorming/problem session on “Applying Machine Learning to mathematics” at ICERM, Brown University, US.
- **20 April 2022:** Invited speaker. Talk “Introduction to Machine Learning” for mathematicians at ICERM, Brown University, US.
- **July 2021:** Invited speaker. Talk on “LCK threefolds with algebraic dimension 2” at the online workshop “Real and complex Manifolds. The mathematical heritage of Edoardo Vesentini”, organized by Scuola Normale Superiore, Pisa, Italy. Online.

4 Workshops Organization

I love organizing events, particularly scientific conferences and schools. I have been on the organizing committee of the following events:

- **July 2022:** “1st Italian Geometric Deep Learning School”, Pescara, Italy. Partially funded by Artificial Intelligence Journal, INdAM.
- **July 2019:** “6th Ph.D. School/Conference on Mathematical Modeling of Complex Systems”, Pescara, Italy.
- **August 2018:** “International Conference on Research in Mind Games”, Pisa, Italy.
- **June 2018:** “Complex Geometry and Lie Groups”, Firenze, Italy.
- **February 2018:** “MATE - Maieutica, Arte, Tecnologie, Economia”, Pescara, Italy.
- **March 2017:** “A Differential Geometry Day in Rome”, Rome, Italy.
- **February 2017:** “Geometry and Computer Science”, Pescara, Italy.
- **May 2016:** “A Differential Geometry Day in memory of Sergio Console”, Torino, Italy.
- **February 2015:** “Workshop in memory of Sergio Console”, Torino, Italy.
- **September 2014:** “New Trends in Differential Geometry 2014”, Cagliari, Italy.
- **September 2011:** “New Trends in Differential Geometry”, L’Aquila, Italy.
- **June, 2009:** “Kähler and Sasakian Geometry in Rome”, Rome, Italy.
- **June, 2006:** “Giornata di Geometria Differenziale Pescarese”, Pescara, Italy.

5 Students

I have several PhD students, both at my University of Chieti–Pescara and at other universities. In detail:

- **2024–present:** PhD student working on applications of reinforcement learning to optimization of large combinatorial problems. Cycle XL in the PhD “Data Science”, Tor Vergata university of Rome, Italy.

- **2024–present:** National PhD student in artificial intelligence working on dynamics of parameters under the action of Adam-like optimizers. Cycle XL in the PhD “AI and Data Science”, Campus Biomedico, Rome, Italy.
- **2023–present:** National PhD student in artificial intelligence working on automated theorem proving with reinforcement learning. Cycle XXXIX in the PhD “AI and Data Science”, Campus Biomedico, Rome, Italy.
- **2022–present:** National PhD student in artificial intelligence working on material bio-engineering, on the project “machine learning material identification for finite element bio mechanical analysis of soft tissues”. Cycle XXXVIII in the PhD “AI for Health and Life Sciences”, Campus Biomedico, Rome, Italy.
- **2021–present:** PhD student working on applications of reinforcement learning to finance, on the project “deep portfolio optimization”. Cycle XXXVII in the PhD “Economics, Networks and Business Analytics”, IMT school, Lucca, Italy. This PhD is co-supervised with the PhD “Business Economics” at KU Leuven, Belgium.
- **2021–present:** PhD student working on natural language processing. Cycle XXXVII in the PhD “Business, Institutions, Markets”, University of Chieti–Pescara, Italy.
- **2021–present:** National PhD student in artificial intelligence working on computational biology and life sciences, on the project “intelligent decision support systems for health-care”. Cycle XXXVII in the PhD “AI for Health and Life Sciences”, Campus Biomedico, Rome, Italy.
- **2019–2022:** PhD student who worked on interdisciplinary applications of reinforcement learning, with a thesis titled “real world problems through deep reinforcement learning”. Cycle XXXV in the PhD “Information Engineering and Science”, University of Siena, Italy.

I have supervised undergraduate (bachelor’s) and graduate (master’s) theses, as well as level II master’s theses, both at the University of Chieti–Pescara and at other universities. In detail:

- **2012–present:** 72 undergraduate theses between the University of Chieti–Pescara and LUISS, Rome.
- **2018–present:** 10 graduate theses between the University of Chieti–Pescara, Florence, Pisa, Rome Sapienza, and LUISS.
- **2012–present:** 5 level II master’s theses for students from Pakistan.
- Some of my thesis students deal with topics in topology and geometry, further attesting to the relevance of these subjects to geometry. Among these, I highlight as an example:
 - “Equilibrium Manifolds”, an **undergraduate thesis** that interprets equilibrium configurations in an economic market as **differentiable manifolds**, and analyzes their properties. The student then actively participated in the summer school of mathematics in Perugia, where he later completed a PhD in statistics, and is now a lecturer at the University of Southampton.

6 Teaching

6.1 PhD and Graduate Courses

- **February 2023:** “Geometric Deep Learning” one lecture in the PhD course “Geometry of Deep Learning” at Modena University, Italy.

- **2021–2022:** “Mathematics, Deep Learning and Deep Reinforcement Learning” PhD course at Firenze University. Department of Mathematics and Computer Science, Firenze, Italy. 30 hours, in presence.
- **2022:** “Linear Algebra”, master course in the International Mathematics Master, see www.internationalmathematicsmaster.org.
- **2020–2021:** “Apprendimento per rinforzo / Reinforcement Learning” PhD course at Firenze University. Department of Mathematics and Computer Science, Firenze, Italy. Online.
- **2020–2021:** “Differential Geometry” PhD course at Pisa University. Department of Civil and Environmental Engineering, Pisa, Italy. In presence.
- **July 2020:** “Reinforcement Learning”, 8 hours module at Master of level II “Customer Experience, Statistics, Machine Learning & Artificial Intelligence”, organized by Department of Economics and Finance, Tor Vergata University, Roma, Italy. Online.
- **2019–2020:** “Apprendimento per rinforzo / Reinforcement Learning” PhD course at Firenze University. Department of Mathematics and Computer Science, Firenze, Italy. Online.
- **2018–2019:** “Reinforcement Learning” PhD course at Siena University. Department of Information Engineering and Mathematical Sciences, Siena, Italy.
- **April 2019:** “Reinforcement Learning”, 6 hours module at Master of level II “Customer Experience & Social Media Analytics”, organized by Department of Economics and Finance, Tor Vergata University, Roma, Italy.
- **2017–2018:** “Calculus and Linear Algebra” PhD course at Sant’Anna School of Advanced Studies, Pisa, Italy.

6.2 Undergraduate Teaching

Paralleling my various interests, I have experience in teaching undergraduate courses on a broad range of topics beyond general mathematics. In particular, I taught **Calculus, Finance, Game Theory, Neural Networks, Logic and Discrete Mathematics**. In October 2021 I will start a brand new course on artificial intelligence for finance.

- **September 2023:** Crash course, 6 hours: “Machine Learning for mathematicians”, HPRT Hokkaido - Pisa - Roma Tor Vergata - Torino Summer School, Torino University, Italy.
- **March 2022:** ”Machine Learning” for the International Mathematics Master, for mathematicians at Lahore University, Pakistan. Online.
- **2021–2022:** “Intelligenza Artificiale per la Finanza” (6 CFU), “Giochi Combinatori e Machine Learning” (6 CFU) courses.
- **May-June 2021:** Three lectures on Reinforcement Learning for “Laurea Magistrale” for computer scientists at Pisa University. Online.
- **January-February 2021:** Crash course, 12 hours: “Reinforcement Learning: the way machines learn”, for mathematicians at Trento University, Italy. Online.
- **2020–2021:** “Analisi II” (9 CFU), “Giochi Combinatori e Machine Learning” (6 CFU) courses.

- **December 2020:** One lecture on Reinforcement Learning for mathematicians at Pisa University. Online.
- **2019–2020:** “Matematica Generale” (9 CFU), “Giochi Combinatori e Machine Learning” (6 CFU) courses.
- **November 2019:** Crash course, 3 hours: “Neural networks and Deep Learning: recent advances in Artificial Intelligence”, LUISS, Roma, Italy.
- **2018–2019:** “Matematica Generale” (9 CFU), “Teoria dei Giochi Combinatori” (6 CFU) courses.
- **November 2018:** Crash course, 3 hours: “Neural networks and Deep Learning: recent advances in Artificial Intelligence”, LUISS, Roma, Italy.
- **August 2018:** Crash course, 4 hours: “Introduction to Neural Networks for Mathematicians”, SNS, Pisa, Italy.
- **2017–2018:** “Matematica Generale” (9 CFU), “Geometria” (6 CFU) courses.
- **2016–2017:** “Analisi Matematica” (7 CFU), “Matematica Discreta e Logica Matematica” (6 CFU) courses.
- **2013–2016:** “Matematica Finanziaria” (6 CFU), “Matematica Discreta” (9 CFU) courses.
- **2011–2013:** “Matematica Generale” (9 CFU) course.
- **2009–2010:** “I giochi astratti ed il Go”, (1 CFU).
- **2008–2009:** “Il Go tra gioco, matematica ed economia”, (1 CFU).
- **2004–2011:** “Matematica Finanziaria” course.
- **2002–2004:** “Matematica Generale” course.
- **September, 2001–October, 2002:** High school teaching.
- **April–May, 2002:** Geometry 3, with A. Swann e A. Fino at “Institut for Matematik og Datalogi (IMADA)”, Odense, Denmark.

6.3 Non-academic Teaching

I also have teaching experience in non-academic settings, such as dissemination conferences, courses for high school students, and professional training.

- **March 2023:** “Introduction to Geometric Deep Learning”, organized by University of Bologna, Italy.
- **March 2022:** “Reinforcement Learning”, 20 hours module at “Master on Deep Learning”, organized by Experis Academy. Online.
- **November 2021:** “Introduzione all’intelligenza artificiale”, 6 hours course at “Campus di Matematica Online”, organized by “Scuola di Formazione Scientifica Luigi Lagrange”. Online.
- **November 2021:** “Reinforcement Learning”, 20 hours module at “Master on Deep Learning”, organized by Experis Academy. Online.

- **June 2021:** “Reinforcement Learning”, 12 hours module of professional training, organized by Deep Learning Italia. In presence at Reggio Emilia, Italy.
- **December 2020:** “AI impact on Go”, ChessTech conference (www.chessconference.org). Online.
- **January 2020:** “Introduzione a AlphaGo Zero”, Pisa, Italy.
- **December 2019:** “Introduzione alle reti neurali”, Pisa, Italy.
- **December 2019:** “Reinforcement Learning”, 20 hours module at ”Master on Machine Learning”, organized by Experis Academy, Bergamo, Italy.
- **December 2019:** “Do humans dream of creative machines?”, Pisa, Italy.
- **November 2019:** “Introduzione all’intelligenza artificiale oggi”, Pisa, Italy.
- **September 2019:** “Deep Learning e AlphaGo”, Milano, Italy.
- **June 2019:** “Reti neurali e Deep Learning”, Pescara, Italy.
- **May 2019:** “Errare è umano ma non solo: passato, presente e futuro dell’intelligenza artificiale”, 4 hours mini-workshop, Chieti, Italy.
- **April 2019:** “Reinforcement Learning”, 6 hours module at ”Master on Big Data Analytics Professionals”, organized by Masterandskills Business School, in partnership with Sapienza University, Roma, Italy.
- **February 2019:** “Reinforcement Learning”, 16 hours module at ”Master on Deep Learning”, organized by Experis Academy, Roma, Italy.
- **January 2019:** “Il gioco del Go e l’intelligenza artificiale”, Pisa, Italy.
- **November 2018:** “Reti Neurali, apprendimento e giochi combinatori”, Milano, Italy.
- **September 2018:** “AlphaGo e Deep Learning, ovvero: perché l’IA avanza così velocemente?”, at “Notte dei Ricercatori”, Pescara, Italy.
- **May 2018:** “Deep Learning e AlphaGo”, Roma, Italy.
- **April 2018:** “IA ieri e oggi: perché sta migliorando così velocemente?”, opening conference at Campus MFS, organized by “Scuola di Formazione Scientifica Luigi Lagrange”, Marina di Massa, Massa, Italy.
- **April 2018:** “Deep Learning e AlphaGo”, Milano, Italy.
- **March 2018:** “Deep Learning e AlphaGo”, Pisa, Italy.
- **January 2018:** “Il gioco del Go e l’intelligenza artificiale”, Pisa, Italy.
- **September 2017:** “IA ieri e oggi: perché sta migliorando così velocemente?”, at “Notte dei Ricercatori”, Pescara, Italy.
- **May 2017:** Crash course, 10 hours: “Il gioco combinatorio e i computer”, organized by “Scuola di Formazione Scientifica Luigi Lagrange”, Marina di Massa, Massa, Italy.
- Maurizio Parton, *La vittoria dell’IA su Lee Sedol? È solo l’inizio!*, **MATE journal**, (2016), 14–19.

- **July 2016:** Crash course, 6 hours: “Cade l’ultimo baluardo: Google batte campione di Go”, organized by “Scuola di Formazione Scientifica Luigi Lagrange”, Bardonecchia, Turin, Italy.
- **May 2016:** “Go, l’uomo e i computer: quando l’allievo digitale supera il maestro”, Pisa, Italy.
- **May 2016:** “Cade l’ultimo baluardo: Google batte campione di Go”, organized by “Olimpiadi Nazionali di Matematica”, Cesenatico, Italy.
- **March 2016:** “Il Go e l’intelligenza artificiale”, organized by “Olimpiadi Nazionali di Matematica”, University of Parma, Italy.
- **March 2016:** “La sfida tra supercomputer e campione mondiale”, organized by CNR, Pisa, Italy.

7 Other Activities and Skills

7.1 Various

- Member of the board in the Italian PhD “Dottorato Nazionale in Intelligenza Artificiale, ciclo XXXVII” (see www.phd-ai.it).
- Member of the board of **Mathematics for Artificial Intelligence**, a group supported by the *Unione Matematica Italiana* for spreading the use of mathematics in AI.
- Since 2018, I am a Deep Learning Italia instructor www.deeplearningitalia.com.
- From 2013 to 2021, I have been president of the Italian Go association. I organized several Go tournaments. In particular, I organized the “2018 European Go Congress” www.egc2018.it, a **2-weeks long event with more than 1200 participants**.
- I am web manager of various web sites (workshops, degree courses, mathematical dissemination).
- Institutional tasks at University of Chieti-Pescara: president of “Commissione Pratiche studenti”, member of “Comitato Ricerca” and “Gruppo di Assicurazione della Qualità”, department delegate for “Notte dei ricercatori 2023”.
- I routinely organize activities for students at University of Chieti-Pescara: for instance, “Torneo di Trading” (since 2013), seminars on cryptocurrencies, blockchain, artificial intelligence, finance, events on the game of Go.
- Referee for several international journals:
 - Advances in Geometry
 - Annals of Global Analysis and Geometry
 - Complex Manifolds
 - Communications in Contemporary Mathematics
 - Geometriae Dedicata
 - Journal of Geometry and Physics
 - Journal of Mathematics Research
 - Manuscripta Mathematica

- Mathematical Research Letters
- Mathematische Annalen
- Open Mathematics
- Symmetry, Integrability and Geometry: Methods and Applications
- Transactions on Pattern Analysis and Machine Intelligence
- Transformation Groups
- Vietnam Journal of Mathematics

7.2 Languages

- Native Italian speaker.
- English (good).
- French (basic).
- Japanese: basic level (JLPT N5).

7.3 Computer Skills

- Programming languages: Python, Keras, TensorFlow, Java, C, C++, BASIC, HTML, \TeX and \LaTeX .
- Operating Systems: Linux and Microsoft Windows.
- Software tools: Mathematica, SageMath, Coq, UniMath.

8 Publications

1. Flora Angileri, Giulia Lombardi, Andrea Fois, Renato Faraone, Carlo Metta, Michele Salvi, Luigi Amedeo Bianchi, Marco Fantozzi, Silvia Giulia Galfrè, Daniele Pavesi, Maurizio Parton, Francesco Morandin, *A Systematization of the Wagner Framework: Graph Theory Conjectures and Reinforcement Learning*. DS 2024, in **Lecture Notes in Computer Science**, **15243**, (2025), **325–338**, doi.org/10.1007/978-3-031-78977-9_21.
2. Antonio Di Cecco, Andrea Papini, Carlo Metta, Marco Fantozzi, Silvia Giulia Galfrè, Francesco Morandin, Maurizio Parton, *SwitchPath: Enhancing Exploration in Neural Networks Learning Dynamics*. DS 2024, in **Lecture Notes in Computer Science**, **15243**, (2025), **275–291**, doi.org/10.1007/978-3-031-78977-9_18.
3. Marco Gregnanin, Johannes De Smedt, Giorgio Gnecco, Maurizio Parton, *Stock Price Time Series Forecasting Using Dynamic Graph Neural Networks and Attention Mechanism in Recurrent Neural Networks*. ECML PKDD 2023, in **Communications in Computer and Information Science**, **2137**, (2025), **357–373**, doi.org/10.1007/978-3-031-74643-7_26.
4. Marco Gregnanin, Yanyi Zhang, Johannes De Smedt, Giorgio Gnecco, Maurizio Parton, *Signature-based portfolio allocation: a network approach*. **Applied Network Science**, **9**, **54**, (2024), **1–37**, doi.org/10.1007/s41109-024-00651-1.

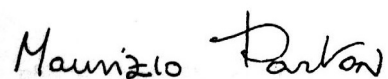
5. Carlo Metta, Marco Fantozzi, Andrea Papini, Gianluca Amato, Matteo Bergamaschi, Silvia Giulia Galfrè, Alessandro Marchetti, Michelangelo Vegliò, Maurizio Parton, Francesco Morandin, *Increasing biases can be more efficient than increasing weights*. **IEEE/CVF Winter Conference on Applications of Computer Vision WACV**, (2024), 2798–2807, doi.org/10.1109/WACV57701.2024.00279.
6. Gianluca Amato, Alessia Amelio, Luciano Caroprese, Piero Chiacchiarretta, Fabio Fioravanti, Luigi Ippoliti, Maria Chiara Meo, Gianpiero Monaco, Christian Morbidoni, Luca Moscardelli, Maurizio Parton, Francesca Scozzari, *AI for Sustainability: Research at Ud'A Node*. **CEUR Workshop Proceedings**, 3762, (2024), 516–521, ceur-ws.org/Vol-3762/.
7. Marco Miani, Maurizio Parton, Marco Romito, *Curious Explorer: a provable exploration strategy in Policy Learning*. **IEEE Transactions on Pattern Analysis and Machine Intelligence**, 46, 12, (2024), 11422–11431, doi.org/10.1109/TPAMI.2024.3460972.
8. Antonio Di Cecco, Carlo Metta, Marco Fantozzi, Francesco Morandin, Maurizio Parton, *GloNets: Globally Connected Neural Networks*. IDA 2024, in **Lecture Notes in Computer Science**, 14641, (2024), 53–64, doi.org/10.1007/978-3-031-58547-0_5.
9. Maurizio Parton, Andrea Fois, Michelangelo Vegliò, Carlo Metta, Marco Gregnanin, *Predicting the Failure of Component X in the Scania Dataset with Graph Neural Networks*. IDA 2024, in **Lecture Notes in Computer Science**, 14642, (2024), 251–259, doi.org/10.1007/978-3-031-58553-1_20.
10. Marco Gregnanin, Johannes De Smedt, Giorgio Gnecco, Maurizio Parton, *Signature-Based Community Detection for Time Series*. COMPLEX NETWORKS 2023, in **Studies in Computational Intelligence**, 1142 SCI, (2024), 146–158, doi.org/10.1007/978-3-031-53499-7_12.
11. Maurizio Parton, Marco Angelone, Carlo Metta, Stefania D'Ovidio, Roberta Massarelli, Luca Moscardelli, Gianluca Amato, Cristiano De Nobili, *Artificial intelligence and renegotiation of commercial lease contracts affected by pandemic-related contingencies from Covid-19. The project A.I.A.Co*. **Journal of Cross-disciplinary Research in Computational Law**, 2, 1, (2024), 1–24, <https://journalcrcl.org/crcl/article/view/36>.
12. Daniele Angella, Maurizio Parton, Victor Vuletescu, *On Locally Conformally Kähler Three-folds with Algebraic Dimension Two*, **International Mathematics Research Notices**, 2023, 5, (2023), 3948–3969, doi.org/10.1093/imrn/rnab362.
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Maurizio Parton

A handwritten signature in black ink that reads "Maurizio Parton". The signature is written in a cursive style with some stylized flourishes.