Ferdinando **Fioretto**

Assistant Professor

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Rice Hall 307, Computer Science, University of Virginia, Charlottesville - VA 22903 - U.S.A.

Research Interests : Machine Learning | Differential Privacy | Algorithmic Fairness | AI for Science and Engineering

Professional Experience

Current Aug. 2023	**University of Virginia**, *Computer Science*, Charlottesville, VA Assistant Professor
Jul. 2023 Jan. 2020	**Syracuse University**, *Electrical Engineering & Computer Science*, Syracuse, NY Assistant Professor

Education and Training

Dec. 2019 Sep. 2018	**Georgia Institute of Technology**, *School of Industrial and System Engineering*, Atlanta, GA Post-doctoral Researcher
Dec. 2018 Sep. 2016	**University of Michigan**, *Industrial and Operations Engineering*, Ann Arbor, MI Research Fellow
Aug. 2016 Jan. 2012	**University of Udine** [1], *Computer Science*, Udine, IT Ph.D. in Computer Science
Dec. 2011 Aug. 2010	**New Mexico State University**, *Computer Science*, Las Cruces, NM MS. in Computer Science
Nov. 2009	**University of Parma**, *Computer Science & Mathematics*, Parma, IT BS. in Computer Science

Selected Honors and Awards

2025 **Academic Grant Program Award**, NVIDIA. Link
- The NVIDIA Academic Grant Program is a competitive program providing world-class computing access and resources to selected researchers.

2025 **Fellowship in AI Research**, LaCross Institute. Link
- Project name : **"Privacy and Fairness in AI Pipelines : From Data Collection to Decision-Making"**.
  The LaCross AI Institute was established in 2024 with the mission to make the world a better place through the responsible use of AI in business by developing leaders who can manage AI businesses and solutions, guided by ethics, values, and the advancement of human well-being. The Fellowships in AI Research program, supports scholars engaging in research that has beneficial practical societal outcomes and provides the foundationon for substantive future work.

2022 **Caspar Bowden PET Award**, Privacy Enhancing Technologies (PETs). Link
- The Caspar Bowden PET award for Outstanding Research in Privacy Enhancing Technologies is presented annually to researchers whose work makes an outstanding contribution to the theory, design, implementation, or deployment of privacy enhancing technology. The 2022 award was selected among all qualifying papers (published in **any** venue in the years 2020–2021).
  The award letter reads : "Your paper Decision Making with Differential Privacy under the Fairness Lens received the award especially for advancing the understanding of DP and fairness trade-offs in decision making, providing a theoretical framework and exploring a highly relevant practical problem."

2022 **NSF CAREER Award**, National Science Foundation. Press
- Project name : **"End-to-end Constrained Optimization Learning"**.
  The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mismission of their de-

1. Dual degree with New Mexico State University

partment or organization. Activities pursued by early-career faculty should build a firm foundation for a lifetime of leadership in integrating education and research.

2022 **Google Research Scholar Award**, Google (Privacy). Link
- Project name : **"Equity of Differentially Private Decision Processes"**.
  The Research Scholar Program provides unrestricted gifts to support research at institutions around the world, and is focused on funding world-class research conducted by early-career professors.

2022 **Amazon Research Award**, Amazon – AWS AI (Responsible AI). Press
- Project name : **"Toward Understanding the Unintended Disparate Impacts of Private ML Systems"**.
  The Amazon Research Awards is a competitive global program which offers unrestricted funds and AWS Promotional Credits to support research at academic institutions and non-profit organizations in areas that align Amazon's mission to advance science.

2022 **Best Paper Award**, IEEE Transaction of Power Systems. Link
- For paper : "Differentially Private Optimal Power Flow for Distribution Grids".
  This highly selective award was assigned to eight out of all IEEE-TPWRS papers published in 2019–2021.

2022 **Early Career Spotlight**, International Joint Conference on Artificial Intelligence (IJCAI). Link
- Accompanying paper : "Integrating Machine Learning and Optimization to Boost Decision Making".
  The IJCAI Early Career Spotlight talks are aimed at providing an accessible introduction to the research directions of some of the most active early career researchers in AI. The talks are by invitation, based on nominations from the IJCAI program committee.

2021 **Early Career Researcher Award**, Association for Constraint Programming. Link
- The Early Career Research Award is assigned by the Association for Constraint Programming to early career researchers for their contributions to constrained optimization.
  In particular, this *inaugural* award was given "for contribution to constraint programming and, in particular, fundamental advances in distributed constraint satisfaction, constraint-based differential privacy, fairness in artificial intelligence, and their applications in energy, mobility, and census data."

2021 **Mario Gerla Young Investigator Award**, ISSNAF. Press
- Established by the Gerla family in 2019 in memory of Dr. Mario Gerla, professor of Computer Science at UCLA, the Italian Scientists and Scholars in North America Foundation confers the *Young Investigator Awards* every year to outstanding, early-career, Italian researchers working in North America, in recognition of their significant and innovative contributions to computer science. The award is conferred in coordination with the Italian Embassy in US.

2021 **Best Paper Award**, IEEE Transaction of Power Systems. Link
- For paper : "Privacy-Preserving Power System Obfuscation : A Bilevel Optimization Approach".
  This highly selective award was assigned to seven out of all IEEE-TPWRS papers published in 2018–2020.

2017 **Best AI Dissertation Award**, AI*IA. Press
- For Thesis "**Exploiting the Structure of Distributed Constraint Optimization Problems with Applications in Smart Grids.**"
  The "Marco Cadoli' 'Best AI dissertation is assigned by the Italian Association for Artificial Intelligence (AI*IA) to a Ph.D. doctor who have obtained the title in an Italian University based on the quality and impact of the thesis work.

Other Awards

2025 **Best Paper Award**, AAAI colorai workshop. Link
2025 **Outstanding Research Faculty Award (by Dept. nomination)**, University of Virginia. Link
2023 **ICLR Notable Reviewer Award**, International conference on Learning Representations (ICLR). Link
2023 **NMSU CS Star Award**, New Mexico State University (NMSU). Link
2022 **Best Paper Award nomination**, Conference on Neural Information Processing Systems (NeurIPS). Link
2022 **Top Reviewer Award**, Conference on Neural Information Processing Systems (NeurIPS). Link
2021 **Outstanding Reviewer Award**, Conference on Neural Information Processing Systems (NeurIPS). Link
2020 **Differentially Private Temporal Map Challenge Award, $5000**, NIST. Press
2020 **Young Investigator Award Nomination**, ISSNAF. Press
2019 **Invited journal paper**, International Joint Conference on Artificial Intelligence (IJCAI). Link
2017 **Most Visionary Workshop Paper Award**, International Conference of Autonomous Agents and Multiagent Systems (AAMAS). Link
2016 **Top Graduate Student Honor's Cord**, NMSU.

2014 **Outstanding Research Assistant Award**, Computer Science, NMSU. Press
2014 **Outstanding Teaching Assistant Nomination**, NMSU.
2013 **Best Student Paper Award**, Computational Methods in System Biology (CMSB). Link
2013 **Ph.D. Scholarship Award** (∼$50,000), University of Udine.
2013 **Outstanding Teaching Assistant Award**, Computer Science, NMSU. Press
2013 **Computer Science Scholarship** ($1500), NMSU.
2012 **Honors Graduate Recognition for Outstanding Academic Success**, NMSU.
2008 **Erasmus Scholarship** ($\sim \$14,000$), University of Leeds.

Publications

Summary : › *78* Conference papers† › *14* Journals articles › *32* Workshop papers† › *3* Editorial articles › *4* Book chapters › *19* Preprints
Total citations : 2975 **H-index** : 27 Google Scholar

† : In highly competitive venues.

- Names of students I supervise(d) are appended with symbol .
- In computer science publications, author order usually follows contribution, where students are first authors and faculty advisors are listed last to reflect their supervisory role.
- When the symbol [α/β] is used, authors are ordered alphabetically.
- When the symbol [c] is used, author ordered follows contribution, regardless of their advisor or seniority role.
- Award winning papers are highlighted with symbol .

Rigorously Peer Reviewed Conferences

In computer science, conference proceedings serve as the primary outlet for disseminating significant research contributions.

[78] **Multi-Agent Path Finding in Continuous Spaces with Projected Diffusion Models**. [link]
Jinhao Liang, Jacob K. Christopher, Sven Koenig, **Ferdinando Fioretto**.
International Conference on Machine Learning (ICML), 2025.
[**Acceptance Rate** : 26.9%].

[77] **Neuro-symbolic Generative Diffusion Models for Physically Grounded, Robust, and Safe Generation**. [link]
Jacob K. Christopher, Michael Cardei, Jinhao Liang, **Ferdinando Fioretto**.
International Conference on Neuro-symbolic Systems (NeuS), 2025.
[**Acceptance Rate** : TBA].
[Oral] (rates to TBA).

[76] **The Data Minimization Principle in Machine Learning**. [link]
Prakhar Ganesh, Cuong Tran, Reza Shokri, **Ferdinando Fioretto**.
ACM Conference on Fairness, Accountability, and Transparency (FAccT), 2025.
[**Acceptance Rate** : 26.8%].

[75] **Learning To Solve Differential Equation Constrained Optimization Problems**. [link]
Vincenzo Di Vito, Mostafa Mohammadian, Kyri Baker, **Ferdinando Fioretto**.
International Conference on Learning Representations (ICLR), 2025.
[**Acceptance Rate** : 32.02%].
[Spotlight] (5.1% of the accepted papers / 0.01% of all submitted papers).

[74] **Speculative Diffusion Decoding : Accelerating Language Generation through Diffusion**. [link]
Jacob K. Christopher, Michael Cardei, Brian R Bartoldson, Bhavya Kailkhura, **Ferdinando Fioretto**.
Nations of the Americas Chapter of the Association for Computational Linguistics (NAACL), 2025.
[**Acceptance Rate** : 26.0%].
[oral] (22% of the accepted papers / 0.9% of all submitted papers).

› Also appeared in [w8] at **NeurIPS**, 2024. [**Accepted Rate** : 29.0%].

[73] **Differentially Private Data Release on Graphs : Inefficiencies and Unfairness**. [link]
[α/β] **Ferdinando Fioretto**, Diptangshu Sen, Juba Ziani.
International Conference on Artificial Intelligence and Statistics (AISTATS), 2025.
[**Acceptance Rate** : 31.3%].

[72] Fairness Issues and Mitigations in (Differentially Private) Socio-demographic Data Processes. [🔗]
Joonhyuk Ko, Juba Ziani, Saswat Das, Matt Williams, **Ferdinando Fioretto**.
🏆 AAAI Conference on Artificial Intelligence (AAAI), 2025.
[Acceptance Rate : 19%].
[Oral] (5% of the accepted papers / 1.9% of all submitted papers).

› Also appeared in [w8] at AAAI, 2024. 🏆[Oral] (7.6% of the accepted papers).

[71] FairDP : Certified Fairness with Differential Privacy. [🔗]
[c] Khang Tran, **Ferdinando Fioretto**, Issa Khalil, My T. Thai, NhatHai Phan.
IEEE Secure and Trustworthy Machine Learning Conference (SaTML), 2025.
[Acceptance Rate : 29.4%].

[70] Constrained Synthesis with Projected Diffusion Models. [🔗]
Jacob K. Christopher, Stephen Baek, **Ferdinando Fioretto**.
Conference on Neural Information Processing Systems (NeurIPS), 2024.
[Acceptance Rate : 25.8%].

› Also appeared in [w8] at NeurIPS, 2024. 🏆[Oral] (6% of the accepted papers (39% acceptance rate)).

[69] Metric Learning to Accelerate Convergence of Operator Splitting Methods for Differentiable Parametric Programming. [🔗]
[c] Ethan King, James Kotary, **Ferdinando Fioretto**, Jan Drgona.
63rd IEEE Conference on Decision and Control (CDC), 2024.
[Acceptance Rate : 56.7%].

[68] Predict-Then-Optimize by Proxy : Learning Joint Models of Prediction and Optimization. [🔗]
James Kotary, Vincenzo Di Vito, Jacob K. Christopher, Pascal Van Hentenryck, **Ferdinando Fioretto**.
European Conference of Artificial Intelligence (ECAI), 2024.
[Acceptance Rate : 23.3%].

[67] On The Fairness Impacts of Hardware Selection in Machine Learning. [🔗]
Sree Harsha Nelaturu, Nishaanth Kanna Ravichandran, Cuong Tran, Sara Hooker, and **Ferdinando Fioretto**.
International Conference on Machine Learning (ICML), 2024.
[Acceptance Rate : 27.5%].

[66] Disparate Impact on Group Accuracy of Linearization for Private Inference. [🔗]
Saswat Das, Marco Romanelli, **Ferdinando Fioretto**.
International Conference on Machine Learning (ICML), 2024.
[Acceptance Rate : 27.5%].

[65] End-to-End Learning for Fair Multiobjective Optimization Under Uncertainty. [🔗]
My H. Dinh, James Kotary, **Ferdinando Fioretto**.
Conference of Uncertainty on Artificial Intelligence (UAI), 2024.
[Acceptance Rate : 27.0%].

[64] Fairness Increases Adversarial Vulnerability. [🔗]
Cuong Tran, Keyu Zhu, Pascal Van Hentenryck, **Ferdinando Fioretto**.
International Joint Conference on Artificial Intelligence (IJCAI), 2024.
[Acceptance Rate : 13.9%].

[63] Learning Fair Ranking Policies via Differentiable Optimization of Ordered Weighted Averages. [🔗]
My H. Dinh, James Kotary, **Ferdinando Fioretto**.
ACM Conference on Fairness, Accountability, and Transparency (FAccT), 2024.
[Acceptance Rate : 24.3%].

[62] Finding ϵ and δ of Traditional Disclosure Control Systems. [🔗]
[c] **Ferdinando Fioretto**, Keyu Zhu, Pascal Van Hentenryck, Saswat Das, Christine Task.
AAAI Conference on Artificial Intelligence (AAAI), 2024.
[Acceptance Rate : 23.75%].

[61] Differentiable Approximations of Fair OWA Optimization. [🔗]
My H. Dinh, James Kotary, **Ferdinando Fioretto**.
Differentiable Almost Everything, at ICML, 2024.

[Acceptance Rate : 27.0%].

[60] Data Minimization at Inference Time. [🔗]
Cuong Tran and **Ferdinando Fioretto**.
Conference on Neural Information Processing Systems (NeurIPS), 2023.
[Acceptance Rate : 23.0%].

[59] Price-Aware Deep Learning for Electricity Markets. [🔗]
Vladimir Dvorkin and **Ferdinando Fioretto**.
Tackling Climate Change with Machine Learning, at NeurIPS, 2023.
[Acceptance Rate : 35.0%].

[58] Folded Optimization for End-to-End Model-Based Learning. [🔗]
James Kotary, My H. Dinh, **Ferdinando Fioretto**.
International Joint Conference on Artificial Intelligence (IJCAI), 2023.
[Acceptance Rate : 15.0%].

[57] SF-PATE : Scalable, Fair, and Private Aggregation of Teacher Ensembles. [🔗]
James Kotary, Vincenzo Di Vito, **Ferdinando Fioretto**, Pascal Van Hentenryck.
International Joint Conference on Artificial Intelligence (IJCAI), 2023.
[Acceptance Rate : 15.0%].

[56] End-to-End Combinatorial Ensemble Learning. [🔗]
James Kotary, Vincenzo Di Vito, **Ferdinando Fioretto**.
International Joint Conference on Artificial Intelligence (IJCAI), 2023.
[Acceptance Rate : 15.0%].

[55] On the Fairness Impacts of Private Ensembles Models. [🔗]
Cuong Tran, **Ferdinando Fioretto**.
International Joint Conference on Artificial Intelligence (IJCAI), 2023.
[Acceptance Rate : 15.0%].

[54] Load Encoding for Learning AC-OPF. [🔗]
[c] Terrence W.K. Mak, **Ferdinando Fioretto**, Pascal Van Hentenryck.
Proceedings of the **IEEE PES General Meeting (PES)**, 2023.
[Acceptance Rate : Unknown].

[53] An Analysis of the Reliability of AC Optimal Power Flow Deep Learning Proxies. [🔗]
[c] My H. Dinh, **Ferdinando Fioretto**, Mostafa Mohammadian, and Kyri Baker.
IEEE PES Innovative Smart Grid Technologies, 2023.
[Acceptance Rate : unknown].

[52] End-to-End Optimization and Learning for Multiagent Ensembles. [🔗]
James Kotary, Vincenzo Di Vito, **Ferdinando Fioretto**.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 2023.
[Acceptance Rate : 40.0%].

[51] Pruning has a disparate impact on model accuracy. [🔗]
Cuong Tran, **Ferdinando Fioretto**, Jung-Eun Kim, Rakshit Naidu.
🏆 **Conference on Neural Information Processing Systems (NeurIPS)**, 2022.
[Acceptance Rate : 25.6%].
[Spotlight] (∼3% of all paper submissions (10,411, in 2022).).

[50] Post-processing of Differentially Private Data : A Fairness Perspective. [🔗]
[c] Keyu Zhu, **Ferdinando Fioretto**, Pascal Van Hentenryck.
International Joint Conference on Artificial Intelligence (IJCAI), 2022.
[Acceptance Rate : 15.0%].

[49] Differential Privacy and Fairness in Decisions and Learning Tasks : A Survey. [🔗]
[c] **Ferdinando Fioretto**, Cuong Tran, Keyu Zhu, Pascal Van Hentenryck.
International Joint Conference on Artificial Intelligence (IJCAI), 2022.
[Acceptance Rate : 18.0% (survey track)].

[48] Integrating Machine Learning and Optimization to Boost Decision Making. [🔗]

Ferdinando Fioretto.
International Joint Conference on Artificial Intelligence (IJCAI), 2022.
[Acceptance Rate : Invited].
[Early Career Spotlight] (Accompanying paper.).

[47] End-to-end Learning for Fair Ranking Systems. [🔗]
[c] James Kotary, Ferdinando Fioretto, Pascal Van Hentenryck, Ziwei Zhu.
ACM Web Conferences (WWW), 2022.
[Acceptance Rate : 17.0%].

[46] Fast Approximations for Job Shop Scheduling : A Lagrangian Dual Deep Learning Method. [🔗]
[c] James Kotary, Ferdinando Fioretto, Pascal Van Hentenryck.
AAAI Conference on Artificial Intelligence (AAAI), 2022.
[Acceptance Rate : 15.0%].

[45] Differentially-Private Heat and Electricity Markets Coordination. [🔗]
Lesia Mitridati, Emma Romei, Gabriela Hug, Ferdinando Fioretto.
International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), 2022.
[Acceptance Rate : Unknown].

[44] Learning Solutions for Intertemporal Power Systems Optimization with Recurrent Neural Networks. [🔗]
[c] Mostafa Mohammadian, Kyri Baker, My H. Dinh, Ferdinando Fioretto.
International Conference on Probabilistic Methods Applied to Power Systems (PMAPS), 2022.
[Acceptance Rate : Unknown].

[43] Differentially Private Deep Learning under the Fairness Lens. [🔗]
Cuong Tran, My H. Dinh, Ferdinando Fioretto.
Conference on Neural Information Processing Systems (NeurIPS), 2021.
[Acceptance Rate : 26.0%].

[42] Learning Hard Optimization Problems : A Data Generation Perspective. [🔗]
James Kotary, [c] Ferdinando Fioretto, Pascal Van Hentenryck.
Conference on Neural Information Processing Systems (NeurIPS), 2021.
[Acceptance Rate : 26.0%].

[41] Decision Making with Differential Privacy under the Fairness Lens. [🔗]
[c] Cuong Tran, Ferdinando Fioretto, Pascal Van Hentenryck, Zhiyan Yao.
International Joint Conference on Artificial Intelligence (IJCAI), 560–566, 2021.
[Acceptance Rate : 13.9%].
[Winner of the 2022 Caspar Bowden PET Award] (Selected among all papers about Privacy Enhancing Technologies published in international conferences between 2020–2022.).

[40] End-to-End Constrained Optimization Learning : A Survey. [🔗]
[c] James Kotary, Ferdinando Fioretto, Pascal Van Hentenryck, Bryan Wilder.
International Joint Conference on Artificial Intelligence (IJCAI), 4475–4482, 2021.
[Acceptance Rate : 30.1%].

[39] Bias and Variance of Post-processing in Differential Privacy. [🔗]
Keyu Zhu, Pascal Van Hentenryck, Ferdinando Fioretto.
AAAI Conference on Artificial Intelligence (AAAI), 11177–11184, 2021.
[Acceptance Rate : 21.0%].

[38] Differentially Private and Fair Deep Learning : A Lagrangian Dual Approach. [🔗]
Cuong Tran, [c] Ferdinando Fioretto, Pascal Van Hentenryck.
AAAI Conference on Artificial Intelligence (AAAI), 9932–9939, 2021.
[Acceptance Rate : 21.0%].

[37] A Privacy-Preserving and Accountable Multi-agent Learning Framework. [🔗]
Anudit Nagar, Cuong Tran, Ferdinando Fioretto.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), 1605–1606, 2021.
[Acceptance Rate : 40.0%].

[36] Constrained-based Differential Privacy. [🔗]
Ferdinando Fioretto.

International Conference on Principles and Practice of Constraint Programming (CP), 1868–8969, 2021.
[Acceptance Rate : Invited].

[35] Differentially Private Optimal Power Flow for Distribution Grids. [🔗]
[c] Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Jalal Kazempour, Pierre Pinson.
IEEE PowerTech, 2021.
[Acceptance Rate : Unknown].

[34] A Lagrangian Dual Framework for Deep Neural Networks with Constraints. [🔗]
[c] **Ferdinando Fioretto**, Pascal Van Hentenryck, Terrence W.K. Mak, Cuong Tran♣, Federico Baldo, Michele Lombardi.
European Conference on Machine Learning (ECML), 18–135, 2020.
[Acceptance Rate : 19.0%].

[33] Differential Privacy Stackebelg Games. [🔗]
[c] **Ferdinando Fioretto**, Lesia Mitridati, Pascal Van Hentenryck.
International Joint Conference on Artificial Intelligence (IJCAI), 3480–3486, 2020.
[Acceptance Rate : 12.6%].

[32] OptStream : Releasing Time Series Privately. [🔗]
Ferdinando Fioretto, Pascal Van Hentenryck.
🏆 International Joint Conference on Artificial Intelligence (IJCAI), 5135–5139, 2020.
[Acceptance Rate : [Invited to the IJCAI journal track]].
(selected papers only.) .

[31] Privacy-Preserving Obfuscation for Distributed Power Systems. [🔗]
[c] Terrence W.K. Mak, **Ferdinando Fioretto**, Pascal Van Hentenryck.
Power Systems Computation Conference (PSCC), 2020.
[Acceptance Rate : 20.5%].

[30] Predicting AC Optimal Power Flows : Combining Deep Learning and Lagrangian Dual Methods. [🔗]
Ferdinando Fioretto, Terrence W.K. Mak, Pascal Van Hentenryck.
AAAI Conference on Artificial Intelligence (AAAI), pages 630–637, 2020.
[Acceptance Rate : 20.6%].

[29] The Smart Appliance Scheduling Problem : A Bayesian Optimization Approach. [🔗]
Atena Tabakhi, William Yeoh, **Ferdinando Fioretto**.
International Conference on Principles and Practice of Multi-Agent Systems (PRIMA), 100–115, 2020.
[Acceptance Rate : 38.0%].

[28] Privacy-Preserving Federated Data Sharing. [🔗]
Ferdinando Fioretto, Pascal Van Hentenryck.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 638–646, 2019.
[Acceptance Rate : 24.0%].

[27] Privacy-Preserving Obfuscation of Critical Infrastructure Networks. [🔗]
Ferdinando Fioretto, Terrence W.K. Mak, Pascal Van Hentenryck.
International Joint Conference on Artificial Intelligence (IJCAI), pages 1086–1092, 2019.
[Acceptance Rate : 17.9%].

[26] Differential Privacy of Hierarchical Census Data : An Optimization Approach. [🔗]
Ferdinando Fioretto, Pascal Van Hentenryck.
🏆 International Conference on Principles and Practice of Constraint Programming (CP), pages 639–655, 2019.
[Acceptance Rate : 37.0%].
[Invited to Constraint journal] (selected papers – declined.).

[25] Solving Multiagent Constraint Optimization Problems on the Constraint Composite Graph. [🔗]
Ferdinando Fioretto, Hong Xu, Sven Koenig, TK Satish Kumar.
International Conference on Principles and Practice of Multi-Agent Systems (PRIMA), pages 106–122, 2018.
[Acceptance Rate : 26.2%].

[24] Constrained-based Differential Privacy for Private Mobility. [🔗]
Ferdinando Fioretto, Chansoo Lee, Pascal Van Hentenryck.

International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 1405–1413, 2018.
[Acceptance Rate : 25.2%].

[23] A Large Neighboring Search Schema for Multi-Agent Optimization. [🔗]
Khoi Hoang, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli, Roie Zivan.
International Conference on Principles and Practice of Constraint Programming (CP), pages 688–706, 2018.
[Acceptance Rate : 33.0%].

[22] Constrained-based Differential Privacy : Releasing Optimal Power Flow Benchmarks Privately. [🔗]
Ferdinando Fioretto, Pascal Van Hentenryck.
International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR), pages 215–231, 2018.
[Acceptance Rate : 48.0%].

[21] Constraint Composite Graph-Based Lifted Message Passing for Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto, Hong Xu, Sven Koenig, TK Satish Kumar.
International Symposium on Artificial Intelligence and Mathematics (ISAIM), 2018.
[Acceptance Rate : Unknown].

[20] A Distributed Constraint Optimization (DCOP) Approach to the Economic Dispatch with Demand Response. [🔗]
Ferdinando Fioretto, William Yeoh, Enrico Pontelli, Ye Ma, Satishkumar J. Ranade.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 999–1007, 2017.
[Acceptance Rate : 24.9%].

[19] A Multiagent System Approach to Scheduling Devices in Smart Homes. [🔗]
Ferdinando Fioretto, William Yeoh, Enrico Pontelli.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 981–989, 2017.
[Acceptance Rate : 24.9%].

[18] Infinite-Horizon Proactive Dynamic DCOPs. [🔗]
Khoi Hoang, Ping Hou, **Ferdinando Fioretto**, Makoto Yokoo, William Yeoh, Roie Zivan.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 212–220, 2017.
[Acceptance Rate : 24.9%].

[17] Preference Elicitation for DCOPs. [🔗]
Atena M. Tabakhi, Tiep Le, **Ferdinando Fioretto**, William Yeoh.
International Conference on Principles and Practice of Constraint Programming (CP), pages 278–296, 2017.
[Acceptance Rate : 43.0%].

[16] Proactive Dynamic Distributed Constraint Optimization Problems. [🔗]
Khoi Hoang, **Ferdinando Fioretto**, Ping Hou, Makoto Yokoo, William Yeoh, Roie Zivan.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 597–605, 2016.
[Acceptance Rate : 24.9%].

[15] ER-DCOPs : A Framework for Distributed Constraint Optimization Problems With Uncertainty. [🔗]
Tiep Le, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli, Tran Cao Son.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 606–614, 2016.
[Acceptance Rate : 24.9%].

[14] Multi-Variable Agent Decompositions for DCOPs. [🔗]
Ferdinando Fioretto, William Yeoh, Enrico Pontelli.
AAAI Conference on Artificial Intelligence (AAAI), pages 2480–2486, 2016.
[Acceptance Rate : 25.7%].

[13] A Dynamic Programming-Based MCMC Framework for Solving DCOPs with GPUs. [🔗]
Ferdinando Fioretto, William Yeoh, Enrico Pontelli.
International Conference on Principles and Practice of Constraint Programming (CP), pages 813–831, 2016.
[Acceptance Rate : 35.0%].

[12] Exploiting GPUs in Solving (Distributed) Constraint Optimization Problems with Dynamic Programming. [🔗]
Ferdinando Fioretto, Tiep Le, Enrico Pontelli, William Yeoh, Tran Cao Son.
International Conference on Principles and Practice of Constraint Programming (CP), pages 121–139, 2015.

[Acceptance Rate : 48.7%].

[11] Large Neighborhood Search with Quality Guarantees for Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto, Federico Campeotto, Agostino Dovier, Enrico Pontelli, William Yeoh.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 1835–1836, 2015.
[Acceptance Rate : 46.0%].

[10] Multi-Variable Agents Decomposition for DCOPs to Exploit Multi-Level Parallelism. [🔗]
Ferdinando Fioretto, William Yeoh, Enrico Pontelli.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 1823–1824, 2015.
[Acceptance Rate : 46.0%].

[9] Exploiting the Structure of Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 2007–2008, 2015.
[Acceptance Rate : Unknown].

[8] Exploiting the Structure of Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto.
AAAI Conference on Artificial Intelligence (AAAI), pages 4233–4234, 2015.
[Acceptance Rate : Unknown].

[7] A GPU Implementation of Large Neighborhood Search for Solving Constraint Optimization Problems. [🔗]
(α-β) Federico Campeotto, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli.
European Conference of Artificial Intelligence (ECAI), pages 189–194, 2014.
[Acceptance Rate : 28.0%].

[6] Improving DPOP with Branch Consistency for Solving Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto, Tiep Le, William Yeoh, Enrico Pontelli, Tran Cao Son.
International Conference on Principles and Practice of Constraint Programming (CP), pages 307–323, 2014.
[Acceptance Rate : 49.8%].

[5] Exploring the Use of GPUs in Constraint Solving. [🔗]
(α-β) Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli.
Practical Aspects of Declarative Languages (PADL), pages 152–167, 2014.
[Acceptance Rate : 55.0%].

[4] GD-Gibbs : A GPU-based Sampling Algorithm for Solving Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto, Federico Campeotto, Luca Da Rin Fioretto, William Yeoh, Enrico Pontelli.
International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pages 1339–1340, 2014.
[Acceptance Rate : 46.0%].

[3] Constraint Programming in Community-based Gene Regulatory Network Inference. [🔗]
Ferdinando Fioretto, Enrico Pontelli.
🏆 Computational Methods in System Biology (CMSB), pages 135–149, 2013.
[Acceptance Rate : 55.0%].
[Best Student Paper Award] .

[2] A Filtering Technique for Fragment Assembly-based Proteins Loop Modeling with Constraints. [🔗]
(α-β) Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli.
International Conference on Principles and Practice of Constraint Programming (CP), pages 850–866, 2012.
[Acceptance Rate : 36.0%].

[1] The role of secondary and tertiary structure prediction in determining the function of novel genes found in Xenopus Leavis. [🔗]
Michael R. Best, **Ferdinando Fioretto**, Alessandro Dal Palù, Enrico Pontelli, Tran Son, TuShun R. Powers, Elba E. Serrano.
Neuroscience, 2011, (518.20/ZZ45).
[Acceptance Rate : Unknown].

Journals

[14] Decision-Focused Learning : Foundations, State of the Art, Benchmark and Future Opportunities. [🔗]

Jayanta Mandi, James Kotary, Senne Berden, Maxime Mulamba, Victor Bucarey, Tias Guns, **Ferdinando Fioretto**.
Journal of Artificial Intelligence Research (JAIR), (81), pages 1623–1701, 2024.
[**Impact Factor** : 2.441].

[13] **Gradient-Enhanced Physics-Informed Neural Networks for Power Systems Operational Support**. [🔗]
Mostafa Mohammadian, Kyri Baker, **Ferdinando Fioretto**.
Electric Power Systems Research (223), pages 109551, 2023.
[**Impact Factor** : 3.3].

[12] **Proactive Dynamic Distributed Constraint Optimization Problems**. [🔗]
Khoi D. Hoang, **Ferdinando Fioretto**, Ping Hou, William Yeoh, Makoto Yokoo, Roie Zivan.
Journal of Artificial Intelligence Research (JAIR), (73), pages 179-225, 2022.
[**Impact Factor** : 2.441].

[11] **Differential Privacy of Hierarchical Census Data : An Optimization Approach**. [🔗]
Ferdinando Fioretto, Pascal Van Hentenryck, Keyu Zhu.
Artificial Intelligence Journal (AIJ), (296), pages 103475, 2021.
[**Impact Factor** : 14.05].

[10] **Differentially Private Optimal Power Flow for Distribution Grids**. [🔗]
Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Pierre Pinson, Jalal Kazempour.
[**Impact Factor** : 6.5].

🏆 **IEEE Transactions on Power Systems**, 36(3), pages 2186–2196, 2021.
[Best IEEE TPS paper award] (Given to 8 out of all TPS papers published in 2019–2021.).

[9] **Differential Privacy for Power Grid Obfuscation**. [🔗]
Ferdinando Fioretto, Terrence W.K. Mak, Pascal Van Hentenryck.
IEEE Transactions on Smart Grids, 11(2), pages 1356–1366, 2020.
[**Impact Factor** : 8.6].

[8] **Privacy-Preserving Power System Obfuscation : A Bilevel Optimization Approach**. [🔗]
Terrence W.K. Mak, **Ferdinando Fioretto**, Lyndon Shi, Pascal Van Hentenryck.
[**Impact Factor** : 6.5].

🏆 **IEEE Transactions on Power Systems**, 35(2), pages 1627–1637, 2020.
[Best IEEE TPS paper award] Given to 7 out of all TPS papers published in 2018–2020)..

[7] **OptStream : Releasing Time Series Privately**. [🔗]
Ferdinando Fioretto, Pascal Van Hentenryck.
[**Impact Factor** : 2.441].

🏆 **Journal of Artificial Intelligence Research (JAIR)**, (65) pages 423–456, 2019.
[Invited to IJCAI 2020 journal track] .

[6] **Distributed Multi-Agent Optimization for Smart Grids and Home Automation**. [🔗]
Ferdinando Fioretto, Agostino Dovier, Enrico Pontelli.
[**Impact Factor** : 1.9].

🏆 **Intelligenza Artificiale (IA)**, 12 (2), pages : 67–87, 2019.
[Best 2018 Thesis in Artificial Intelligence (AI*IA)] (Accompanying paper.).

[5] **Distributed Constraint Optimization Problems and Applications : A Survey**. [🔗]
Ferdinando Fioretto, Enrico Pontelli, William Yeoh.
Journal of Artificial Intelligence Research (JAIR), 61, pages 623–698, 2018.
[**Impact Factor** : 2.441].

[4] **AI Buzzwords Explained : Distributed Constraint Optimization Problems**. [🔗]
Ferdinando Fioretto, William Yeoh.
AI Matters, 3 (4), pages 8–13, 2018.

[3] **Accelerating Exact and Approximate Inference for (Distributed) Discrete Optimization with GPUs**. [🔗]
Ferdinando Fioretto, Enrico Pontelli, William Yeoh, Rina Dechter.
Constraints, 23 (1), pages 1–43, 2018.
[**Impact Factor** : 1.8].

[2] Constrained Community-based Gene Regulatory Network Inference. [🔗]
Ferdinando Fioretto, Agostino Dovier, Enrico Pontelli.
ACM Transactions on Modeling and Computer Simulation (TOMACS), 25 (2), pages 11:1–11:26, 2015.
[**Impact Factor** : 1.38].

[1] A Constraint Solver for Flexible Protein Models. [🔗]
(α-β) [2] Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli.
Journal of Artificial Intelligence Research (JAIR), 48, pages 953–1000, 2013.
[**Impact Factor** : 2.441].

Book Chapters and Editorial Articles

[7] Editorial : Federated Distributed Learning and Analytics. [🔗]
Raed Al Kontar, Tianbao Yang, **Ferdinando Fioretto**, and Farzad Yousefian.
IISE Transactions, 2025.

[6] Differential Privacy Overview and Fundamental Techniques. [🔗]
Ferdinando Fioretto, Pascal Van Hentenryck, and Juba Ziani.
DP Book, forthcoming.

[5] Reports of the Workshops Held at the 2022 AAAI Conference on Artificial Intelligence. [🔗]
Ferdinando Fioretto, et al..
AI Magazine, 2022.

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AI Magazine, 2021.

[3] Reports of the Workshops Held at the 2020 International Association for the Advancement of Artificial Intelligence Conference on Web and Social Media. [🔗]
Ferdinando Fioretto, et al..
AI Magazine, 41(4) 2020.

[2] A Realistic Dataset for the Smart Home Device Scheduling Problem for DCOPs. [🔗]
William Kluegel, Muhammad A. Iqbal, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli.
Lecture Notes in Computer Science (LCNS), LNCS, volume 10643 pages 125–142, Springer, 2017.
Visionary Paper Award (AAMAS workshop series).

[1] Investigation of Learning Strategies for the SPOT Broker in Power TAC. [🔗]
Moinul M.P. Chowdhury, Russell Y. Folk, **Ferdinando Fioretto**, Christopher Kiekintveld, William Yeoh.
AgentMediated Electronic Commerce : Designing Trading Strategies and Mechanisms for Electronic Markets, volume 271 of Lecture Notes in Business Information Processing, pages 96–111, Springer, 2017.

Peer Reviewed Workshops

[32] Fairness Issues and Mitigations in (Differentially Private) Socio-demographic Data Processes. [🔗]
Joonhyuk Ko, Juba Ziani, Saswat Das, Matt Williams, **Ferdinando Fioretto**.
AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)–at AAAI, 2025.
[Oral] (11% of the submitted papers.).

[31] Saswat Das, Marco Romanelli, Cuong Tran, Zarreen Reza, Bhavya Kailkhura, Ferdinando Fioretto. [🔗]
Low-rank finetuning for LLMs : A fairness perspective.
AAAI CoLoRAI Workshop, 2025.
[Best paper award] .

[30] Multi-Agent Path Finding in Continuous Spaces with Projected Diffusion Models. [🔗]
Jinhao Liang, Jacob Christopher, Sven Koenig, **Ferdinando Fioretto**.
Combining AI and OR/MS for Better Trustworthy Decision Making, at AAAI, 2025.
[Oral] .

[29] OPF-Net : Real-Time Stability Constrained AC Optimal Power Flow. [🔗]
Vincenzo Di Vito, Mostafa Mohammadian, Kyri Baker, **Ferdinando Fioretto**.

2. Author list is order alphabetically.

AAAI Bridge on Explainable AI, Energy and Critical Infrastructure Systems, 2025.

[28] Physics-Aware Generative Diffusion Models for Micro-structure Material Design. [🔗]
Jacob K. Christopher, Stephen Baek, **Ferdinando Fioretto**.
AI 4 Material science, at NeurIPS, 2024.
[Acceptance Rate : 39%].
[Oral] (6% of the accepted papers.).

[27] Speculative Diffusion Decoding : Accelerating Language Generation through Diffusion. [🔗]
Jacob K. Christopher, Michael Cardei, Brian R Bartoldson, Bhavya Kailkhura, **Ferdinando Fioretto**.
Efficient Natural Language and Speech Processing (ENLSP), at NeurIPS, 2024.
[Acceptance Rate : 29%].

[26] Physics-Aware Diffusion Models for Micro-structure Material Design. [🔗]
Jacob K. Christopher, Stephen Baek, **Ferdinando Fioretto**.
ELLIS ML for Molecules and Materials in the Era of LLMs Workshop, 2024.

[25] Constrained Synthesis with Projected Diffusion Models. [🔗]
Jacob K. Christopher, Stephen Baek, **Ferdinando Fioretto**.
Machine Learning and the Physical Sciences Workshop – at NeurIPS, 2024.

[24] The Data Minimization Principle in Machine Learning. [🔗]
Prakhar Ganesh, Cuong Tran, Reza Shokri, **Ferdinando Fioretto**.
Workshop on Regulatory ML – at NeurIPS, 2024.
[Acceptance Rate : 30.0%].

[23] Differentiable Approximations of Fair OWA Optimization. [🔗]
My H. Dinh, James Kotary, **Ferdinando Fioretto**.
Workshop on Differentiable Almost Everything – at ICML, 2024.
[Acceptance Rate : 27%].

[22] The Data Minimization Principle in Machine Learning. [🔗]
Ferdinando Fioretto.
Workshop on Generative AI and Law – at ICML, 2024.
[Acceptance Rate : 30.0%].

[21] Privacy-Preserving Convex Optimization : When Differential Privacy Meets Stochastic Programming. [🔗]
Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Pierre Pinson, Jalal Kazempour.
Workshop on Climate Change AI – at NeurIPS, 2023.

[20] A Fairness Analysis on Private Aggregation of Teacher Ensembles. [🔗]
Cuong Tran, My H. Dinh, **Ferdinando Fioretto**.
AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)–at AAAI, 2022.
Spotlight (15% of the accepted papers).

[19] Decision Making with Differential Privacy under the Fairness Lens. [🔗]
Cuong Tran, **Ferdinando Fioretto**.
Theory and Practice of Differential Privacy (TPDP) – at ICML, 2021.

[18] A Privacy-Preserving and Accountable Multi-agent Learning Framework. [🔗]
Anudit Nagar, Cuong Tran, **Ferdinando Fioretto**.
International Workshop on Learning and Optimization in Multi-Agent Systems (OPTLearnMAS)–at AAMAS, 2021.

[17] Differentially Private and Fair Deep Learning : A Lagrangian Dual Approach. [🔗]
Cuong Tran, **Ferdinando Fioretto**, Pascal Van Hentenryck.
AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)–at AAAI, 2021.

[16] Lagrangian Duality for Constrained Deep Learning. [🔗]
Ferdinando Fioretto, Cuong Tran, Pascal Van Hentenryck.
INFORMS, 2020.

[15] Differential Privacy For Stackelberg Games : An Application To Gas And Electricity Markets. [🔗]
Lesia Mitridati, **Ferdinando Fioretto**, Pascal Van Hentenryck.
INFORMS, 2020.

[14] A Large Neighboring Search Schema for Multi-Agent Optimization. [🔗]
Khoi Hoang, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli, Roie Zivan.
International Workshop on Optimization in Multi-Agent Systems (OPTMAS)–at AAMAS, 2019.

[13] Solving Multiagent Constraint Optimization Problems on the Constraint Composite Graph. [🔗]
Ferdinando Fioretto, Hong Xu, Sven Koenig, TK Satish Kumar.
International Workshop on Optimisation in Multi-Agent Systems (OptMAS)–at AAMAS, 2018.

[12] A Realistic Dataset for the Smart Home Device Scheduling Problem for DCOPs. [🔗]
William Kluegel, Muhammad Aamir Iqbal, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli.
International Workshop on Optimisation in Multi-Agent Systems (OPTMAS)–at AAMAS, 2017.

[11] A Multiagent System Approach to Scheduling Devices in Smart Homes. [🔗]
Ferdinando Fioretto, William Yeoh, Enrico Pontelli.
Workshop on AI for Smart Grids and Smart Buildings (AISGSB)–at AAAI, 2017.

[10] A Preliminary Study on Preference Elicitation in DCOPs for Scheduling Devices in Smart Buildings. [🔗]
Atena M. Tabakhi, **Ferdinando Fioretto**, William Yeoh.
10th Workshop on Advances in Preference Handling (MPREF)–at IJCAI, 2016.

[9] Investigation of Learning Strategies for the SPOT Broker in Power TAC. [🔗]
Porag Chowdhury, Russell Y. Folk, **Ferdinando Fioretto**, Christopher Kiekintveld, William Yeoh.
International Workshop on Agent Mediated Electronic Commerce and Trading Agents Design and Analysis (AMEC/TADA)–at AAMAS, 2016.

[8] Proactive Dynamic DCOPs. [🔗]
Khoi Hoang, **Ferdinando Fioretto**, Ping Hou, Makoto Yokoo, William Yeoh, Roie Zivan.
Workshop on AI for Smart Grids and Smart Buildings (AISGSB)–at AAAI, 2016.

[7] Large Neighborhood Search with Quality Guarantees for Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto, Federico Campeotto, Agostino Dovier, Enrico Pontelli, William Yeoh.
In International Workshop on Optimization in Multi-Agent Systems (OptMAS)– at AAMAS, 2015.

[6] Improving DPOP with Branch Consistency for Solving Distributed Constraint Optimization Problems. [🔗]
Ferdinando Fioretto, Tiep Le, William Yeoh, Enrico Pontelli, Tran Cao Son.
In International Workshop on Optimization in Multi-Agent Systems (OptMAS)– at AAMAS, 2015.

[5] Experimenting with FIASCO for protein structure prediction. [🔗]
[α/β] Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli.
Workshop on Constraint Based Methods for Bioinformatics (WCB)–at CP, 2014.

[4] Towards a complete constraint solver on GPU. [🔗]
[α/β] Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli.
In Workshop on Parallel Methods for Search & Optimization (ParSearchOpt)–at ECAI, 2014.

[3] Community-based Gene Regulatory Network Inference via Constraint Programming. [🔗]
Ferdinando Fioretto, Enrico Pontelli.
Workshop on Constraint Based Methods for Bioinformatics (WCB)–at CP, 2013.

[2] Protein Loop Modelling via Constraints and Fragment Assembly. [🔗]
[α/β] Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli.
Workshop on Constraint Based Methods for Bioinformatics (WCB)–at CP, 2012.

[1] Introducing FIASCO : Fragment-based Interactive Assembly for protein Structure prediction with COnstraints. [🔗]
[α/β] Michael R. Best, Kabi Bhattarai, Federico Campeotto, Alessandro Dal Palù, Hung Dang, Agostino Dovier, **Ferdinando Fioretto**, Federico Fogolari, Tiep Le, Enrico Pontelli.
Workshop on Constraint Based Methods for Bioinformatics (WCB)–at CP, 2011.

Pre-prints and In-press

[11] Constrained Language Generation with Discrete Diffusion Models. [🔗]
Michael Cardei, Jacob K Christopher, Thomas Hartvigsen, Brian R. Bartoldson, Bhavya Kailkhura, and Ferdinando Fioretto.
NeurIPS (under review), 2025.

[10] Training-Free Constrained Generation With Stable Diffusion Models. [🔗]
Stefano Zampini, Jacob K Christopher, Luca Oneto, Davide Anguita, **Ferdinando Fioretto**.
NeurIPS (under review), 2025.

[9] Global-Decision-Focused Neural ODEs for Proactive Grid Resilience Management. [🔗]
Shuyi Chen, Ferdinando Fioretto, Feng Qiu, Shixiang Zhu.
IEEE Transactions on Smart Grids (under review), 2025.

[8] Simultaneous Multi-Robot Motion Planning with Projected Diffusion Models. [🔗]
Jinhao Liang, Jacob K Christopher, Sven Koenig, **Ferdinando Fioretto**.
ICML (under review), 2025.

[7] Gen-DFL : Decision-Focused Generative Learning for Robust Decision Making. [🔗]
Prince Zizhuang Wang, Jinhao Liang, Shuyi Chen, **Ferdinando Fioretto**, Shixiang Zhu.
ICML (under review), 2025.

[6] Multi-Agent Path Finding in Continuous Spaces with Projected Diffusion Models. [🔗]
Jinhao Liang, Jacob K. Christopher, Sven Koenig, Ferdinando Fioretto.
CoRR abs/2412.17993, 2025.

[5] OPF-Net : Real-Time Stability Constrained AC Optimal Power Flow. [🔗]
Vincenzo Di Vito, Mostafa Mohammadian, Kyri Baker, **Ferdinando Fioretto**.
IEEE Transactions on Power Systems (revision), 2025.

[4] End-to-End Optimization and Learning of Fair Court Schedules. [🔗]
My H. Dinh, James Kotary, Lauryn P. Gouldin, William Yeoh, **Ferdinando Fioretto**.
FAccT (under review), 2025.

[3] Low-rank finetuning for LLMs : A fairness perspective. [🔗]
Saswat Das, Marco Romanelli, Cuong Tran, Zarreen Reza, Bhavya Kailkhura, **Ferdinando Fioretto**.
FAccT (under review), 2025.

[2] Learning Constrained Optimization with Deep Augmented Lagrangian Methods. [🔗]
James Kotary, **Ferdinando Fioretto**.
CoRR abs/2403.03454, 2024.

[1] Analyzing and Enhancing the Backward-Pass Convergence of Unrolled Optimization. [🔗]
James Kotary, Jacob K. Christopher, My H Dinh, and **Ferdinando Fioretto**.
INFORMS journal of computing (under review), 2024.

Archived and Extended Versions of Published Papers

[12] Context-Aware Differential Privacy for Language Modeling. [🔗]
My H. Dinh, **Ferdinando Fioretto**.
CoRR abs/2301.12288, 2023.

[11] Deadwooding : Robust Global Pruning for Deep Neural Networks. [🔗]
Sawinder Kaur, **Ferdinando Fioretto**, Asif Salekin.
CoRR abs/2202.05226, 2022.

[10] Towards Understanding the Unreasonable Effectiveness of Learning AC-OPF Solutions. [🔗]
My H. Dinh, **Ferdinando Fioretto**, Mostafa Mohammadian, Kyri Baker.
CoRR abs/2111.11168, 2021.

[9] Differentially Private Deep Learning under the Fairness Lens. [🔗]
Cuong Tran, My H. Dinh, **Ferdinando Fioretto**.
CoRR abs/2106.02674, 2021 (**extended NeurIPS-21 version**).

[8] A Privacy-Preserving and Trustable Multi-agent Learning Framework. [🔗]
Anudit Nagar, Cuong Tran, **Ferdinando Fioretto**.
CoRR abs/2106.01242, 2021. (**extended AAMAS-21 version**).

[7] End-to-End Constrained Optimization Learning : A Survey. [🔗]
James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck, Bryan Wilder.
CoRR abs/2103.16378, 2021. (**extended IJCAI-21 version**).

[6] **Load Embeddings for Scalable AC-OPF Learning**. [🔗]
Terrence W.K. Mak, **Ferdinando Fioretto**, Pascal Van Hentenryck.
CoRR abs/2101.03973, 2021.

[5] **Bias and Variance of Post-processing in Differential Privacy**. [🔗]
Keyu Zhu, Pascal Van Hentenryck, **Ferdinando Fioretto**.
CoRR abs/2010.04327, 2020 (**extended AAAI-21 version**).

[4] **High-Fidelity Machine Learning Approximations of Large-Scale Optimal Power Flow**. [🔗]
Minas Chatzos, **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck.
CoRR abs/2006.16356, 2020.

[3] **Differentially Private Convex Optimization with Feasibility Guarantees**. [🔗]
Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Jalal Kazempour, Pierre Pinson.
CoRR abs/2006.12338, 2020.

[2] **Predicting AC Optimal Power Flows : Combining Deep Learning and Lagrangian Dual Methods**. [🔗]
Ferdinando Fioretto, Terrence W.K. Mak, Pascal Van Hentenryck.
CoRR abs/1909.10461, 2019 (**extended AAAI-20 version** : c5).

[1] **Privacy-Preserving Obfuscation of Critical Infrastructure Networks**. [🔗]
Ferdinando Fioretto, Terrence W. K. Mak, Pascal Van Hentenryck.
CoRR abs/1905.09778, 2019 (**extended IJCAI-19 version** : c5).

Teaching

Responsible AI (CS 7000), *University of Virginia*

Spring 2025	Course Evaluation : TBA (class), TBA (instructor) / 5.00
Spring 2024	Course Evaluation : 4.8 (class), 4.75 (instructor) / 5.00

Artificial Intelligence (CS 4710), *University of Virginia*

Fall 2023	Course Evaluation : 4.33 (class), 4.5 (instructor) / 5.00
Fall 2024	Course Evaluation : 4.21 (class), 4.22 (instructor) / 5.00

Security and Privacy of Machine Learning (CS 700), *Syracuse University*

Spring 2020	Course Evaluation : 4.55/5.00 (median 5.00)
Spring 2021	Course Evaluation : 4.46/5.00 (median 5.00)
Spring 2022	Course Evaluation : 4.93/5.00 (median 5.00)

Introduction to Artificial Intelligence (CIS 467), *Syracuse University*

Fall 2020	Course Evaluation : 4.56/5.00 (median 5.00)
Fall 2021	Course Evaluation : 4.48/5.00 (median 5.00)
Fall 2022	Course Evaluation : 4.45/5.00 (median 5.00)
Fall 2023	Course Evaluation : 4.15/5.00 (median 5.00)

Discrete Mathematics (CS 375), *Syracuse University*

Spring 2023	Course Evaluation : 4.60/5.00 (median 5.00)

Mentoring

Current Students

› **Vincenzo Di Vito** (PhD, UVA CS) *Fall 2022*
Research : Physics Informed Machine Learning.
PhD Milestones : qualifying exam (Spring 2024) ; proposal defense (Spring 2025, expected) ; projected defense (Spring 2026).

› **Saswat Das** (PhD, UVA CS) *Fall 2023*
Research : Responsible AI, Differential Privacy.
Awards : ● [Best paper award at AAAI CoLoRAI Workshop, 2025] ● [Oral at AAAI-25]
PhD Milestones : qualifying exam (Spring 2025, expected)

› **Jacob K. Christopher** (PhD, UVA CS) *Fall 2023*
Research : Generative AI for Science, Safety.
Awards : ● [Oral at NAACL-25] ● [Best paper award at UVA LLM workshop, 2024] ● [Oral at NeurIPS-24 ENLSP workshops] ● [Oral at NeurIPS-24 AI4Mat workshops]
PhD Milestones : qualifying exam (Fall 2024) ; proposal defense (Fall 2025, expected))

› **Jinhao Liang** (PhD, UVA CS) *Fall 2024*
Research : Generative AI, Differentiable Optimization.
Awards : ● [Oral at AAAI Bridge on ML for OR program, 2025] ● [Oral at AAAI MAPF workshop, 2025]
PhD Milestones : qualifying exam (Fall 2025)

› **Michael Cardei** (PhD, UVA CS) *Fall 2024*
Research : LLMs, Generative AI, Safety.
Awards : ● NSF GRFP 2025 honorable mention ● [Oral at NAACL-25] ● Best paper at LLM workshop, UVA
PhD Milestones : qualifying exam (Fall 2025)

› **Huu Binh Ta** (PhD, UVA CS) *Fall 2025*
Research : Generative AI, AI for Science.

› **Zehua Wang** (PhD, UVA CS) *Fall 2025*
Research : Generative AI, LLMs, Privacy.

› **Jameson Sandler** (PhD, UVA CS) *Fall 2025*
Research : Generative AI and Optimization.

› **Peggy Cui**, (MS, UVA CS) *Spring 2024*

› **Joonhyuk Ko** (BS, UVA CS) *Fall 2023*
Awards : ● [CRA outstanding undergraduate research honorable mention] ● [Oral at AAAI-25]

› **Jameson Sandler** (BS, UVA CS) *Fall 2024*

› **Yili Bai** (BS, UVA CS) *Spring 2025*

› **Natalia Wunder** (BS, UVA CS) *Spring 2025*

› **Connor Lewis** (BS, UVA CS) *Spring 2025*

› **Lauren LaPorta** (BS, UVA CS) *Spring 2025*

› **Lea Demelius** (Visiting PhD student, Technical University of Graz) *Spring 2025*

Graduated Students

› **My Dinh** (PhD, UVA CS) *Spring 2021 – Spring 2025*
Research : Deep Learning, Optimization, Fairness.
Dissertation Title : Bridging Machine Learning and Optimization : Learning Fair and Scalable Problem Solving
Next position : TBA

› **James Kotary, PhD** (UVA, CS) *Fall 2020 – Fall 2024*
Research : Integration of Deep Learning and Optimization.
Dissertation Title : Integrating Constrained Optimization with Machine Learning to Enhance Data-Driven Decision Making
Next position : Research Scientist, Pacific Northwest National Laboratory.

› **Cuong Tran, PhD** (Syracuse University, CISE) *Spring 2020 – Spring 2023*
Research : Differential Privacy and Fairness.
Awards : ● [Caspar Bowden PET Award (2022)] ● [Best Paper Award Nomination at NeurIPS-22]

Dissertation Title : The Interplay between Privacy and Fairness in Learning and Decision-making Problems
Next position : Research Scientist, Amazon.

› **Jacob Kennedy Christopher, MS** (Syracuse University) *Spring 2023*
Research : Differentiable Optimiztion.
Next position : PhD student at *University of Virginia*.

› **Yehya Farhat, MS** (Syracuse University) *Fall 2022*
Dissertation Title : Surrogate ML models for optimization.
Next position : PhD student at *Rice University*.

Past Students and Visitors

› **Stefano Zampini**, (Visiting student, PhD at University of Genova) *Summer 2024*

- **Cuong Tran** (Postdoc) *Sep 2023 – Mar 2024*
  Research : Data Minimization, Fairness in Large Language Models.
- **Razan Tajeddine**, (Visiting student, Postdoc at U of Helsinki) *Sep 2023 – Mar 2024*
  Research : Differential Privacy and Fairness.
- **St John Grimbly**, (Visiting student, MS at UniSA) *Spring 2023*
  Next position : PhD student at *University of South Africa*.
- **Jayanta Mandi**, (Visiting Student Researcher, PhD at KU Leuven) *Jun 2022 – Sep 2022*
  Research : Decision Focused Learning.
- **Rakshit Naidu**, MS at CMU (Intern) *Summer 2022*
  Research : Privacy and Fairness in ML. Next position : PhD student at *Georgia Tech*

BS and High-School Students

Shujun Xia (BS, City University of Hong Kong, Summer 2024), **Zarreen Reza** (BS, OpenMined, Spring 2024), **Eric Nguyen** (BS, University of Virginia, Fall 2023), **Catherine Smolka** (HS, Deep Run High School, VA, 2023-2024), **Pranav Putta** (BS, GaTech, Summer 2023) [NSF REU], **Winston Tsui** (BS, SU Summer 2023), **Zhongquan Cheng** (BS SU, Summer 2023), **Adya Parida** (BS SU, Fall 2022) [NSF REU], **Deniz Gursoy** (HS, Fayetteville High School, Summer 2022), **Saswat Das** (BS, ITS, Summer 2022), **Utsav Pathak** (BS, Alliance University, Bengaluru, Summer 2022), **Daiwei Shen** (BS, Northwestern, Summer 2022), **Sunisth Kumar** (BS, Bennett University, Summer 2022), **Kyle Beiter** (BS, SU, Summer 2021) [NSF REU], **Shantanu Jhaveri** (BS, USC, Summer 2021) [NSF REU], **Dayong Gu** (BS, SU, Summer 2021), **Guoliang Chen** (BS, SU, Summer 2021), **Pradyumn Yadav** (BS, SU, Summer 2021), **Anudit Nagar** (BS, SU, Summer 2020), **Zhiyan Yao** (BS, SU, Summer 2020), **Zifei Lu** (BS, SU, Summer 2020), **Thomas Montfort** (BS, SU, Summer 2020), **Cong Liu** (BS, SU, Summer 2020), **Pratik Paranjape**, (BS, SU, Summer 2020), **Pavan Kumar Vaddineni** (BS, SU, Spring 2020), **William Kluegel**, (BS, NMSU, 2016 – 2018), **Lyndon Shi** (BS, UMich, 2018), **Jiayu Chen** (BS, UMich, 2018), **Eric Frechette** (BS, NMSU, 2016).

PhD Dissertation Committee

- **Chen Gong**, (University of Virginia) 2025
- **Galen Harrison**, (University of Virginia) 2025
- **Felipe Toledo**, (University of Virginia) 2025
- **Luca Giuliani**, (University of Bologna) 2024
- **Eleonora Misino**, (University of Bologna) 2024
- **Guangtao Zheng**, (University of Virginia) 2024
- **Dung Nguyen**, (University of Virginia) 2023
- **Elena Long**, (University of Virginia) 2023
- **Khang Tran**, (New Jersey Institute of Technology) 2023
- **Keyu Zhu**, (Georgia Institute of Technology) 2023
- **Adrià Fenoy Barcel**, (University of Verona) 2023
- **Jeroen Fransman**, (Delft University of Technology) 2022
- **Pegah Hozhabrierdi**, (Syracuse University) 2022
- **Carlos Pinzon**, (École Polytechnique) 2022
- **Baocheng Geng**, (Syracuse University) 2021
- **Pranay Sharma**, (Syracuse University) 2021

Research Grants and Gifts

Summary : Total External : $2,930,903 ($1,962,903 as PI) Total Internal : $181,000

- **NVIDIA**, NVIDIA Academic Research Award (GPUs usage) (150,000 hours) 5/25
  Role : PI
- **Google**, Google Cloud Academic Research Award ($10,000 in compute credits) 4/25
  Role : PI
- **LaCross Institute**, 2025 Fellowship in AI Research ($100,000 [entire amount for the PI]) 06/25-05/27
  Role : PI (with collaborator Max Biggs)
- **Cohere for AI**, Cohere For AI Research Grant (LLM credits) ($20,000) 12/24
  Role : PI

- **University of Virginia (Research Innovation Award)** ($60,000) 8/24-7/25
  Project title : *Understanding and Mitigating Privacy Leakage Risks for Large Language Model Applications*
  Role : PI (with David Evans as coPI)
- **National Science Foundation (CISE - RI)** ($600,000 - UVA portion : $350,000) 08/23-07/26
  Project title : *Collaborative Research : End-to-end Learning of Fair and Explainable Schedules for Court Systems*
  Role : Lead PI (with L. Gouldin (Syr) as coPI and W. Yeoh WashU as collaborative PI)
- **National Science Foundation (EECS - EPCN)** ($520,000 - UVA porition : $260,000) 08/23-07/26
  Project title : *Collaborative Research : Physics Informed Real-time Optimal Power Flow*
  Role : PI (with Kyri Baker (UC Boulder) as collaborative PI)
- **Amazon Research Awards AWS AI** ($55,000) 01/23
  Project title : *Toward Understanding the Unintended Disparate Impacts of Private Machine Learning Systems*
  Role : PI
- **National Science Foundation (CAREER, CISE - RI)** ($515,403) 03/22-02/27
  Project title : *CAREER : End-to-end Constrained Optimization Learning*
  Role : PI
- **Google Research Scholar Award** ($60,000) 06/22
  Project title : *On the Equity of Differentially Private Decision Processes*
  Role : PI
- **National Science Foundation (CISE - SaTC)** ($500,000 - UVA portion : $281,000) 10/21-09/25
  Project title : *Collaborative Research : SaTC : Core : Small : Privacy and Fairness in Critical Decision Making*
  Role : Lead PI (with P. Van Hentenryck (Georgia Tech) as collaborative PI)
- **National Science Foundation (CISE - RI)** ($500,000 - UVA portion : $266,000) 10/20-09/24
  Project title : *Collaborative Research : RI : Small : Deep Constrained Learning for Power Systems*
  Role : PI (with P. Van Hentenryck (Georgia Tech) as collaborative PI)
- **CUSE Program** ($21,000) 07/21-06/23
  Project title : *On the Potential Perils of Fairness Algorithms in Decision Making and Learning Tasks*
  Role : PI (with S. Soundarajan (Syr) as coPI)

Travel and Service Grants

- *Support for Scholarship awards to attend the 2025 AAAI Privacy Preserving AI workshop* 03/25
  Sponsorship from : *Deloitte* ($3000) ; *Google* ($5000) ; *Apple* ($3000) ; *OpenDP* ($500)
  Role : PI
- **National Science Foundation** ($50,000) 05/24
  Project title : *Conference : Artificial Intelligence Summer School for Computer Science and Operations Research Education*
  Role : coPI (with Lavanya Marla (UIUC) as PI
- **Artificial Intelligence Journal** ($4,000) 03/24
  Project title : *Student Support AU-SCORE 2024*
  Role : PI (with Lavanya Marla)
- **Artificial Intelligence Journal** ($15,000) 01/23
  Project title : *Student Support for AAMAS 2023*
  Role : PI (with Ana L. C. Bazzan)
- **National Science Foundation** ($25,000) 05/23
  Project title : *Travel : Travel : Doctoral Mentoring Consortium at the 22nd International Conference on Autonomous Agents and Multiagent Systems*
  Role : PI
- *Support for Scholarship awards to attend the 2024 AAAI Privacy Preserving AI workshop* 03/24
  Sponsorship from : *Google* ($5000) ; *OpenDP* ($500)
  Role : PI
- *Support for Scholarship awards to attend the 2023 AAAI Privacy Preserving AI workshop* 03/23
  Sponsorship from : *Google* ($2,500)
  Role : PI

Pending Grants Submissions

- **DOE EXPRESS**, ($500,000) 5/25
  Project title : Transformers as Constrained Optimizers : Foundations, Efficiency, and In-Context Learning for Scientific AI
  Role : PI (with Hadi Daneshmand as coPI)

- **DOE Early Career Research Program**, ($875,000) 4/25
  Project title : Foundational Methods for Constrained Generative Modeling in Scientific Computing
  Role : PI
- **Amazon Research Awards AWS AI**, ($70,000) 04/25
  Project title : Massively Accelerating Large Language Models Inferences through Speculative Diffusion Decoding
  Role : PI
- **National Science Foundations**, ($600,000) 3/25
  Project title : Constrained Generation for Scientific and Engineering Applications
  Role : PI
- **DARPA YFA**, ($1,000,000) 2/25
  Project title : Constraint-Driven Generative AI for Grounded, Physics-informed, and Reliable Outputs
  Role : PI
- **National Science Foundations**, ($1,200,000) 08/24
  Project title : Privacy and Fairness : From Data Collection to Downstream Decisions
  Role : PI (with Juba Ziani (Georgia Tech) as coPI)
- **CISCO**, ($100,000) 10/24
  Project title : Disclosure Audits for LLM-powered Agentic Systems
  Role : co-PI (with David Evans as PI)
- **4VA Grants**, ($30,000) 01/25
  Project title : Towards Fair and Interpretable LLM-based Decision Systems
  Role : PI (with Ziwei Zhu as coPI)
- **4VA Grants**, ($30,000) 01/25
  Project title : Dynamic LLM Benchmarks for Multimodal Social Intelligence
  Role : PI (with Jindong Wang as coPI)

(Several other grants are in preparation, including three NSF and one DOE proposals.)

Tutorials, Selected Invited Talks and Media interviews

- **Invited talk** : Generative AI for Science. May, 2025
  TED-X Chantilly High School
- **Google talk** : Conversational audits for Privacy Exploits in LLM Agents. May, 2025
  Google Research
- **Panelist** : Combining AI and ORMS for better trustworthy Decision Making. Mar 2025
  AAAI 2025 Bridge Program
- **Invited participant and group lead** : On the Safety of Foundations Models for Autonomous BioLabs. Feb 2025
  DOE Workshop on Envisioning Frontiers in AI and Computing for Biological Research
- **Keynote talk** : Privacy and Fairness issues in Large Language Models. Nov 2024
  S-HPC Workshop, at Supercomputing 24
- **Invited talk** : Unfairness in Constrained Machine Learning. Nov 2024
  Ohio State University, Department of Computer Science
- **Invited talk** : Constraining diffusion models for scientific applications. Oct 2024
  UVA LLM Workshop
- **Invited talk** : Privacy and Fairness in Resource Allocations. Oct 2024
  2024 Federal Committee on Statistical Methodology (FCSM) Research and Policy Conference
- **Invited talk** : Constrained Diffusion for Science and Engineering. Oct 2024
  Oklahoma State University, School of Industrial Engineering and Management
- **Invited talk** : Constrained Diffusion for Science and Engineering. Sep 2024
  University of Virginia, Department of Systems and Information Engineering
- **Podcast invited speaker** : NSI Cyber and Tech Center : "Unleashing Innovation : Navigating Game Changing Technologies" – episode on open source large language model. Jul 2024
  National Security Institute at George Mason University's Antonin Scalia Law School
- **Invited participant and group lead** : US-UK Scientific Forum on Science in the Age of AI. Jun 2024
  National Academy of Sciences

- **Panelist** : AI and OR summer school. May 2024
  AI-SCORE
- **Invited talk** : Fairness in ML : The curious case of computational shortcuts and hardware choices. May, 2024
  BuzzRobot
- **Invited talk** : The Principle of Data Minimization in Machine Learning. Apr, 2024
  Google Research Seminars
- **Media cover** : Building fairness into AI is crucial – and hard to get right. Mar 2024
  The Conversation , CHED/QR Radio
- **Invited talk** : Responsible AI in Decision Making Processes. Feb 2024
  Amazon Research Seminars
- **Keynote talk** : Privacy and Fairness in Societal Systems. Nov 2023
  Workshop on the Tradeoffs in Ethical AI, INRIA, France
- **Invited talk** : Responsible AI : Privacy and Fairness in Decision Making and Learning Tasks. Nov 2023
  TOC FOR FAIRNESS, Simons Collaboration on the Theory of Algorithmic Fairness
- **Panelist** : Navigating the Frontiers of Artificial Intelligence. Oct 2023
  The Center for Politics, University of Virginia
- **Invited talk** : Optimization and Learning for Science and Engineering. Oct 2023
  Conference on Complex Systems 2023
- **Invited talk** : ML for Optimization and Optimization for ML. Sep 2023
  AI/ML Seminar Series, University of Virginia
- **Keynote talk** : The Unintended Societal Effects of Privacy in Decision and Learning Tasks. Aug 2023
  IJCAI-2023, International Workshop on Mining Actionable Insights from Social Networks
- **Invited talk** : End-to-end Constrained Optimization Learning. Jul 2023
  AC Summer School : Machine Learning for Constraint Programming
- **Invited talk** : Differential Privacy for Power Systems. Jun 2023
  DTU PES Summer School
- **Invited talk** : Optimization Proxies and Differentiable Optimization for Decision Making. Jun 2023
  MARS Seminar, Pacific Northwest National Laboratory (PNNL)
- **Invited talk** : Constrained-aware Machine Learning in Energy Systems. Jun 2023
  IEEE Power and Energy Society webinar series
- **Invited talk** : Responsible AI : Privacy and Fairness in Decision and Learning Tasks. Apr 2023
  UC San Diego
- **Panelist** : ChatGPT : Charms and Challenges. Apr 2023
  Syracuse University
- **Invited talk** : Responsible AI : Privacy and Fairness in Decision and Learning Tasks. Mar 2023
  University of Virginia
- **Invited talk** : Constrained-Aware Machine Learning. Feb 2023
  Washington University in St. Louis
- **Invited talk** : Differential Privacy for Power Systems. Jan 2023
  Los Alamos National Lab's 5th Grid Science Winter School and Conference
- **Panelist** : Algorithmic Fairness and its Intersections. Dec 2022
  Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS)
- **Tutorial** : End-to-end constrained optimization learning. Dec 2022
  21st International Conference of the Italian Association for Artificial Intelligence (AIxIA 2022)
- **Media cover** : How network pruning can skew deep learning models. Nov 2022
  Science Daily TechXplore AAAS EurekAlert
- **Invited talk** : Disparate Impacts in Privacy-preserving Machine Learning. Nov 2022
  Washington University in St. Louis
- **Tutorial** : Decision Focused Learning. Oct 2022
  Dagstuhl seminar on Data-Driven Combinatorial Optimisation
- **Media interview** *: Privacy and Fairness in AI.* *Jul/Sep 2022*
  Syracuse Media Report *NMSU News* *Sun News*

- **Media interview** *: Google Scholar Research Award.* *Jun 2022*
  Syracuse Media Report
- **Tutorial** *: Impacts of Data Privacy and Equity on Public Policy.* *Jun 2022*
  ACM Conference on Fairness, Accountability, and Transparency (FAccT)
- **Panelist** *: Fostering the Use of AI for Power System Transformation.* *Jun 2022*
  Climate Change AI
- **Media interview** *: NSF CAREER Award.* *Jun 2022*
  Syracuse Media Report
- **Invited talk** *: End-to-end constrained deep learning optimization.* *Mar 2022*
  Hall of Science (Kantar.com)
- **Panelist** *: AAAI-22 DC - Career Panel.* *Feb 2022*
  36th AAAI Conference on Artificial Intelligence (AAAI)
- **Invited talk** *: Privacy-preserving ML and decisions-making : uses and unintended disparate effects.* *Feb 2022*
  PriSec-ML (virtual seminars)
- **Media interview** *: AI for Climate Change.* *Dec 2021*
  RaiNews
- **Popular Media Report** *: ISSNAF Young Investigator Award.* *Nov 2021*
  New York Voice *AISE* Il Mattino StartupItalia Zox PugliaNews
- **Invited talk** *: Deep Constraint Learning : Applications and Privacy Considerations.* *Nov 2021*
  Italian Scientists & Scholars in North America Foundation
- **Plenary Keynote talk** *: Constraint-based Differential Privacy.* *Oct 2021*
  The International Conference on Principle and Practice of Constraint Programming (CP 2021) ,
- **Popular Media interview** *: Deep Learning for Engineering Applications.* *Nov 2021*
  Blum News
- **Invited talk** *: Privacy-Preserving Machine Learning : Uses and Unintended Disparate Effect.* *Sep 2021*
  ASPI Seminar (Syracuse University)
- **Invited talk** *: Differential Privacy and Machine Learning.* *May 2021*
  SUPA ECS workshop for High School Teachers
- **Invited talk** *: Deep Constraint Learning for Critical Engineering Systems.* *Nov 2020*
  Italian Scientists & Scholars in North America Foundation
- **Tutorial** *: Tutorial on Multiagent Optimization.* *Feb 2020*
  AAAI Conference on Artificial Intelligence (AAAI 2020)
- **Media cover** *: Multiagent Systems.* *Feb 2020*
  NetworkDigital360
- **Invited talk** *: Privacy-Preserving Artificial Intelligence.* *Jun 2019*
  University of Parma (CS Dept)
- **Tutorial** *: Tutorial on Multiagent Optimization for IoT Applications.* *May 2019*
  International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2019)
- **Invited talk** *: Differential Privacy for AI Applications*
  University of Southern California - Information Sciences Institute. *Jan 2019*
  Michigan State University. *Feb 2019*
- **Invited talk** *: Privacy Preserving Artificial Intelligence*
  Syracuse University. *Feb 2019*
  Drexel University. *Feb 2019*
  University of Arkansas. *Feb 2019*
  Colorado State University. *Mar 2019*
  University of Connecticut. *Mar 2019*
- **Tutorial** *: Tutorial on Constrained Multi-agent Optimization.* *Feb 2018*
  AAAI Conference on Artificial Intelligence (AAAI 2018)
- **Plenary Keynote talk** *: Distributed Constraint Optimization for Smart Energy Networks.* *Nov 2017*
  Italian Conference on Artificial Intelligence (AI*IA 2017)
- **Invited talk** *: Distributed Constraint Optimization*
  Delft University (TU Delft). *Apr 2016*

University of Udine. *Apr 2016*
New Mexico State University. *Mar 2016*

- **Invited talk** *: Large Neighboring Search for Distributed Constrained Optimization.* *Mar 2016*
  Ben-Gurion University of the Negev

Internal Service

School/Department Service (at UVA)

- Search Committee (Teaching track) 2024 – 2025
- Graduate Program Committee 2023 – 2025
- Advisor ACM SIGAI at UVA 2023 – 2024

School/Department Service (at SU)

- Curriculum Committee 2023 – 2024
- Prepare and Grade Qualifier exam (Programming/Data Structure) 2022 – 2023
- Academic Integrity panelist 2021 – 2022
- Remembrance Scholars Selection Committee 2022

Professional Service

Conference Chair

- **International Conference on Principles and Practice of Constraint Programming (CP)** 2022
  with Roie Zivan

Workshop Chair

- **Sixth AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)**, at AAAI 2025
  with Juba Ziani, Wanrong Zhang, and Jeremy Seeman
- **Algorithmic Fairness through the lens of Metrics and Evaluation (AFME)**, at NeurIPS 2024
  with Awa Dieng, Miriam Rateike, and Golnoosh Farnadi
- **AAAI Workshop on Learnable Optimization (LEARNOPT)**, at AAAI 2024
  with Elias B. Khalil, Pascal Van Hentenryck, Jan Drgona, Draguna Vrabie, and Priya Donti
- **Fifth AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)**, at AAAI 2024
  with Juba Ziani, Christine Task, and Niloofar Mireshghallah
- **Algorithmic Fairness through the lens of Time (AFT)**, at NeurIPS 2023
  with Awa Dieng, Miriam Rateike, and Golnoosh Farnadi
- **Workshop on Optimization and Learning in Multi-Agent Systems**, at AAMAS 2023
  with Hau Chan, Jiaoyang Li, Filippo Bistaffa, and James Kotary
- **Fourth AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)**, at AAAI 2023
  with Catuscia Palamidessi, and Pascal Van Hentenryck
- **Algorithmic Fairness through the lens of Causality and Privacy (AFCP)**, at NeurIPS 2022
  with Awa Dieng, Miriam Rateike, and Golnoosh Farnadi
- **Workshop on Optimization and Learning in Multi-Agent Systems**, at AAMAS 2022
  with Hau Chan and Jiaoyang Li
- **Third AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)**, at AAAI 2022
  with Aleksandra Korolova and Pascal Van Hentenryck
- **AAAI Workshop on Machine Learning for Operational Research (ML4OR)**, at AAAI 2022
  with Emma Frejinger, Elias Khalil, and Pashootan Vaezipoor
- **Second AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)**, at AAAI 2021
  with Pascal Van Hentenryck and Richard W. Evans
- **Workshop on Optimization and Learning in Multi-Agent Systems (OptLearnMAS)**, at AAMAS 2021
  with Amulya Yadev, Gauthier Picard, and Bryan Wilder
- **First AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)**, at AAAI 2020
  with Pascal Van Hentenryck and Rachel Cummings
- **Workshop on Optimization and Learning in Multi-Agent Systems (OptLearnMAS)**, at AAMAS 2020
  with Bryan Wilder and Long Tran-Thanh

- **Workshop on Optimization in Multi-Agent Systems (OptMAS)**, at AAMAS 2019
  with Archie Chapman and Long Tran-Thanh
- **Workshop on Optimization in Multi-Agent Systems (OptMAS)**, at FAIM18 2018
  with Archie Chapman, Long Tran-Thanh, and Roie Zivan

Conference Organizing Committee

- **Tutorial Chair** : The ACM International Conference on AI in Finance (ICAIF) 2025
- **Demo Track Chair** : International Joint Conference on Artificial Intelligence (IJCAI) 2023
- **Scholarship Chair** : International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2023
- **Tutorial Chair** : International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2022
- **Track Chair** : International Conference on Principles and Practice of Constraint Programming (CP) 2018 – 2019
- **Publicity Chair** : International Conference on Logic Programming (ICLP) 2019
- **Track Chair** : International Symposium on Mathematical Programming (ISMP) 2018

Award Committee

- ACP Early Career Researcher Award committee 2024
- ISSNAF Mario Gerla Young Investigator Award 2023

Service to Journals

- **Editorial Board Member** : Artificial Intelligence (AIJ) 2024–present
- **Editorial Board Member** : Journal of Artificial Intelligence Research (JAIR) 2025–2028
- **Associate Editor** : IISE Transactions *Special issue on Federated Learning* 2023
- **Guest Editor** : Theory and Practice of Logic Programming (TPLP) *Past and Present (and Future) of Parallel and Distributed Computation in (Constraint) Logic Programming* 2018

Senior Area Chair

- AAAI Conference on Artificial Intelligence (AAAI) 2025
- ACM Conference on Fairness, Accountability, and Transparency (FAccT) 2023 – 2025
- International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) 2024 – 2025
- International Joint Conference on Artificial Intelligence (IJCAI) 2024 – 2025
- European Conference on Artificial Intelligence (ECAI) 2023 – 2024

Area Chair

- Neural Information Processing Systems (NeurIPS) 2025
- International Conference on Machine Learning (ICML) 2025
- AAAI Conference on Artificial Intelligence (AAAI) 2020 – 2024
- International Joint Conference on Artificial Intelligence (IJCAI) 2021 – 2023
- International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) 2023
- International Conference on Principles and Practice of Constraint Programming (CP) 2018, 2019, 2022

Workshop/Tutorial Proposal Reviewer

- International Conference on Machine Learning (ICML) 2024 – 2025
- Neural Information Processing Systems (NeurIPS) 2023, 2024
- International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) 2022

Program Committee

- ACM Computer and Communications Security (CCS) 2025
- Bridge Program on AI and OR, at AAAI 2025
- Neural Information Processing Systems (NeurIPS) 2020 – 2023
- International Conference on Machine Learning (ICML) 2021 – 2024
- International Conference on Learning Representations (ICLR) 2021 – 2025
- Privacy Enhancing Technologies Symposium (PETS) 2021 – 2023
- Electric Power System Research (PSCC) 2022
- International Conference on Logic Programming (ICLP) 2021
- International Conference on Principles and Practice of Constraint Programming (CP) 2016 – 2018, 2021

- International Joint Conference on Artificial Intelligence (IJCAI) 2016 – 2020
- European Conference on Machine Learning (ECML) 2020
- International Symposium on Combinatorial Search (SoCS) 2015 – 2020
- International Workshop on Optimization and Learning in Multi-Agent Systems (OptLearnMAS) 2020
- AAAI Conference on Artificial Intelligence (AAAI) 2018 – 2019
- Italian Conference on Computational Logic (CILC) 2017 – 2019
- Distributed Artificial Intelligence (DAI) 2019
- European Conference on Artificial Intelligence (ECAI) 2016 – 2018
- International Workshop on Optimization in Multi-Agent Systems (OptMAS) 2016 – 2017
- Italian Conference on Artificial Intelligence (AI*IA) 2017

Journal Reviewer

- Harvard Data Science Review 2024
- INFORMS Journal on Computing 2022, 2023
- Transactions on Machine Learning Research (TMLR) 2022
- Journal of Artificial Intelligence Research (JAIR) 2016 – 2022
- Artificial Intelligence Journal (AIJ) 2016 – 2021
- Journal of Machine Learning Research (JMLR) 2021
- IEEE Transactions on Smart Grid 2019 – 2021
- IEEE Transactions on Power Systems 2020 – 2021
- IEEE Transactions on Dependable and Secure Computing 2020
- IEEE Transactions on Information Forensics & Security 2019 – 2020
- Gates Open Research 2020
- Patterns 2020
- Autonomous Agents and Multi-Agent Systems (JAAMAS) 2014 – 2017, 2019 – 2020, 2023
- Artificial Intelligence Review (AIR) 2016 – 2017
- Fundamenta Informaticae Journal 2016 – 2017
- AI Communications 2017
- Algorithms for Molecular Biology (AMB) 2014

Doctoral Consortia Mentoring

- AAAI Conference on Artificial Intelligence (AAAI) 2022

Conference/Symposium/Workshop Reviewer

- European Control Conference (ECC) 2021
- AAAI Conference on Artificial Intelligence (AAAI) 2014 – 2017
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2014 – 2016
- International Conference on Principles and Practice of Constraint Programming (CP) 2016 – 2017
- International Conference on Principles and Practice of Multi-Agent Systems (PRIMA) 2016
- International Joint Conference on Artificial Intelligence (IJCAI) 2015
- International Conference on Logic Programming (ICLP) 2015
- International Symposium on Combinatorial Search (SoCS) 2014
- International Workshop on Distributed Constraint Reasoning (DCR) 2014
- EURO-Par Parallel Processing (EUROPAR) 2014
- Principles and Practice of Declarative Programming (PPDP) 2014

Panel Reviewer

- NSF, TIP Panel 2025
- The Royal Society, Dorothy Hodgkin Fellowships 2025
- NSF, CISE Panel ($\times 2$) 2024
- Austrian Research Promotion Agency (FFG) 2023
- NSF, Eng Panel 2023

- NSF, NRT Panel 2022
- NSF, SaTC Panel 2022
- NSF, CISE Panel 2022
- Israel Science Foundation (IIS) (external reviewer) 2022 – 2023
- Climate Change AI (CCAI) Grant 2022 – 2023
- CUSE Grant, Syracuse University 2020 – 2021
- NSF, CISE RI (external reviewer) 2020