

Ferdinando FIORETTO

Assistant Professor

📍 307 Rice Hall, Computer Science, University of Virginia, Charlottesville, VA 22904 - U.S.A.
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Research Interests : Machine Learning | Differential Privacy | Algorithmic Fairness | AI for Science and Engineering

EDUCATION AND TRAINING

Dec. 2019	Georgia Institute of Technology, <i>School of Industrial and System Engineering</i> , Atlanta, GA
Sep. 2018	POST-DOCTORAL RESEARCHER
Dec. 2018	University of Michigan, <i>Industrial and Operations Engineering</i> , Ann Arbor, MI
Sep. 2016	RESEARCH FELLOW
Aug. 2016	University of Udine, <i>Computer Science</i> , Udine, IT PH.D. IN COMPUTER SCIENCE (WITH MS IN 2012)
Nov. 2009	University of Parma, <i>Computer Science & Mathematics</i> , Parma, IT BS. IN COMPUTER SCIENCE

RESEARCH AND PROFESSIONAL EXPERIENCE

Current	University of Virginia, <i>Computer Science</i> , Charlottesville, VA
Jun. 2023	ASSISTANT PROFESSOR
Jun. 2023	Syracuse University, <i>Electrical Engineering & Computer Science</i> , Syracuse, NY
Jan. 2020	ASSISTANT PROFESSOR

SELECTED HONORS AND AWARDS

2024	Outstanding Research Faculty Award, University of Virginia. 🔗 Link
2022	Caspar Bowden PET Award, Privacy Enhancing Technologies (PETs). 🔗 Link
2022	NSF CAREER Award, National Science Foundation. 🔗 Press
2022	Google Research Scholar Award, Google. 🔗 Link
2022	Amazon Research Award, Amazon – AWS AI. 🔗 Link
2022	Best Paper Award, IEEE Transaction of Power System. 🔗 Link
2022	Early Career Spotlight, International Joint Conference on Artificial Intelligence (IJCAI). 🔗 Link
2021	Early Career Researcher Award, Association for Constraint Programming. 🔗 Link
2021	Mario Gerla Young Investigator Award for Research in Computer Science, ISSNAF. 🔗 Press
2021	Best Paper Award, IEEE Transaction of Power System. 🔗 Link
2018	Best AI Dissertation Award, AI*IA. 🔗 Press

SELECTED PUBLICATIONS

Summary : > 77 Conference papers > 14 Journals articles > 2 Book chapters > 3 Editorial articles
> 31 Workshop papers > 20+ Preprints

Total citations : 2718 **H-index :** 27 [🎓 Google Scholar](#)

FULL PUBLICATION LIST AVAILABLE [“here”](#)

1. Vincenzo Di Vito, Mostafa Mohammadian, Kyri Baker, **Ferdinando Fioretto**. “Learning To Solve Differential Equation Constrained Optimization Problems”. *Proceedings of the International Conference on Learning Representations (ICLR)*, 2025.
2. Jacob K. Christopher, Michael Cardei, Brian R Bartoldson, Bhavya Kailkhura, **Ferdinando Fioretto**. “Speculative Diffusion Decoding : Accelerating Language Generation through Diffusion”. *Proceedings of the Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics (NAACL)*, 2025.
3. **Ferdinando Fioretto**, Diptangshu Sen, Juba Ziani. “Differentially Private Data Release on Graphs : Inefficiencies and Unfairness”. *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025.
4. Joonhyuk Ko, Juba Ziani, Saswat Das, Matt Williams, **Ferdinando Fioretto**. “Fairness Issues and Mitigations in (Differentially Private) Socio-demographic Data Processes”. *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2025. **[Oral]**.
5. Khang Tran, **Ferdinando Fioretto**, Issa Khalil, My T. Thai, NhatHai Phan. “FairDP : Certified Fairness with Differential Privacy”. In *IEEE Secure and Trustworthy Machine Learning Conference (SaTML 2025)*, 2025.

6. Jacob K Christopher and **Ferdinando Fioretto**. “Constrained Synthesis with Projected Diffusion Models”. *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*, 2024.
7. Jacob K. Christopher, Michael Cardei, Brian R Bartoldson, Bhavya Kailkhura, **Ferdinando Fioretto**. “Speculative Diffusion Decoding : Accelerating Language Generation through Diffusion”. *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*, 2024. **[Oral at AI4Mat Workshop]**.
8. Sree Nelaturu, N. Ravichandran, Cuong Tran, Sara Hooker, and **Ferdinando Fioretto**. “On The Fairness Impacts of Hardware Selection in Machine Learning”. *Proceedings of the International Conference on Machine Learning (ICML)*, 2024.
9. Saswat Das, Marco Romanelli, **Ferdinando Fioretto**. “Disparate Impact on Group Accuracy of Linearization for Private Inference”. *Proceedings of the International Conference on Machine Learning (ICML)*, 2024.
10. My H. Dinh, James Kotary, **Ferdinando Fioretto**. “End-to-End Learning for Fair Multiobjective Optimization Under Uncertainty”. *Proceedings of the Conference of Uncertainty on Artificial Intelligence (UAI)*, 2024.
11. Ethan King, James Kotary, **Ferdinando Fioretto**, Jan Drgona. “Metric Learning to Accelerate Convergence of Operator Splitting Methods for Differentiable Parametric Programming”. *63rd IEEE Conference on Decision and Control (CDC)*, 2024.
12. Cuong Tran, Keyu Zhu, Pascal Van Hentenryck, **Ferdinando Fioretto**. “Fairness Increases Adversarial Vulnerability”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2024.
13. James Kotary, Vincenzo Di Vito, Jacob K. Christopher, Pascal Van Hentenryck, **Ferdinando Fioretto**. “Predict-Then-Optimize by Proxy : Learning Joint Models of Prediction and Optimization”. *Proceedings of the European Conference of Artificial Intelligence (ECAI)*, 2024.
7. My H. Dinh, James Kotary, **Ferdinando Fioretto**. “Learning Fair Ranking Policies via Differentiable Optimization of Ordered Weighted Averages”. *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT)*, 2024.
8. **Ferdinando Fioretto**, Keyu Zhu, Pascal Van Hentenryck, Saswat Das, Christine Task. “Finding ϵ and δ of Traditional Disclosure Control Systems”. *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2024.
9. Cuong Tran and **Ferdinando Fioretto**. “Data Minimization at Inference Time”. *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*, 2023.
10. Vladimir Dvorkin and **Ferdinando Fioretto**. “Price-Aware Deep Learning for Electricity Markets”. *Tackling Climate Change with Machine Learning*, at NeurIPS, 2023.
11. James Kotary, My H. Dinh, **Ferdinando Fioretto**. “Folded Optimization for End-to-End Model-Based Learning”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2023.
12. James Kotary, Vincenzo Di Vito, **Ferdinando Fioretto**, Pascal Van Hentenryck. “SF-PATE : Scalable, Fair, and Private Aggregation of Teacher Ensembles”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2023.
13. James Kotary, Vincenzo Di Vito, **Ferdinando Fioretto**. “End-to-End Combinatorial Ensemble Learning”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2023.
14. Cuong Tran, **Ferdinando Fioretto**. “On the Fairness Impacts of Private Ensembles Models”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2023.
15. Terrence W.K. Mak, **Ferdinando Fioretto**, Pascal Van Hentenryck. “Load Encoding for Learning AC-OPF”. *Proceedings of the IEEE PES General Meeting (PES)*, 2023.
16. My H. Dinh, **Ferdinando Fioretto**, Mostafa Mohammadian, and Kyri Baker. “An Analysis of the Reliability of AC Optimal Power Flow Deep Learning Proxies”. *IEEE PES Innovative Smart Grid Technologies*, 2023.
17. James Kotary, Vincenzo Di Vito, **Ferdinando Fioretto**. “End-to-End Optimization and Learning for Multiagent Ensembles”. *Proceedings of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2023.
18. Cuong Tran, **Ferdinando Fioretto**, Jung-Eun Kim, Rakshit Naidu. “Pruning has a disparate impact on model accuracy”. *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*, 2022. **[Spotlight]**.
19. Keyu Zhu, **Ferdinando Fioretto**, Pascal Van Hentenryck. “Post-processing of Differentially Private Data : A Fairness Perspective”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2022.
20. **Ferdinando Fioretto**, Cuong Tran, Keyu Zhu, Pascal Van Hentenryck. “Differential Privacy and Fairness in Decisions and Learning Tasks: A Survey”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2022.
21. **Ferdinando Fioretto**. “Integrating Machine Learning and Optimization to Boost Decision Making”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2022. **[Early Career Spotlight]**.
22. James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck, Ziwei Zhu. “End-to-end Learning for Fair Ranking Systems”. *Proceedings of the ACM Web Conferences (WWW)*, 2022.

23. James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck. “Fast Approximations for Job Shop Scheduling : A Lagrangian Dual Deep Learning Method”. *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2022.
24. Lesia Mitridati, Emma Romei, Gabriela Hug, **Ferdinando Fioretto**. “Differentially-Private Heat and Electricity Markets Coordination”. *Proceedings of the International Conference on Probabilistic Methods Applied to Power Systems (PMAAPS)*, 2022.
25. Mostafa Mohammadian, Kyri Baker, My H. Dinh, **Ferdinando Fioretto**. “Learning Solutions for Intertemporal Power Systems Optimization with Recurrent Neural Networks”. *Proceedings of the International Conference on Probabilistic Methods Applied to Power Systems (PMAAPS)*, 2022.
26. Cuong Tran, My H. Dinh, **Ferdinando Fioretto**. “Differentially Private Deep Learning under the Fairness Lens”. *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*, 2021.
27. James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck. “Learning Hard Optimization Problems : A Data Generation Perspective”. *Proceedings of the Conference on Neural Information Processing Systems (NeurIPS)*, 2021.
28. Cuong Tran, **Ferdinando Fioretto**, Pascal Van Hentenryck, Zhiyan Yao. “Decision Making with Differential Privacy under the Fairness Lens”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 560–566, 2021. **[2022 Caspar Bowden PET Award]**.
29. James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck, Bryan Wilder. “End-to-End Constrained Optimization Learning : A Survey”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 4475–4482, 2021.
30. Keyu Zhu, Pascal Van Hentenryck, **Ferdinando Fioretto**. “Bias and Variance of Post-processing in Differential Privacy”. *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 11177–11184, 2021.
31. Cuong Tran, **Ferdinando Fioretto**, Pascal Van Hentenryck. “Differentially Private and Fair Deep Learning : A Lagrangian Dual Approach”. *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 9932–9939, 2021.
32. **Ferdinando Fioretto**, Pascal Van Hentenryck, Terrence W.K. Mak, Cuong Tran, Federico Baldo, Michele Lombardi. “A Lagrangian Dual Framework for Deep Neural Networks with Constraints”. *Proceedings of the European Conference on Machine Learning (ECML)*, 18–135, 2020.
33. **Ferdinando Fioretto**, Lesia Mitridati, Pascal Van Hentenryck. “Differential Privacy Stackelberg Games”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 3480–3486, 2020.
34. **Ferdinando Fioretto**, Pascal Van Hentenryck. “OptStream : Releasing Time Series Privately”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 5135–5139, 2020. **[Invited journal paper]**.
35. Terrence W.K. Mak, **Ferdinando Fioretto**, Pascal Van Hentenryck. “Privacy-Preserving Obfuscation for Distributed Power Systems”. *Proceedings of the Power Systems Computation Conference (PSCC)*, 2020.
36. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. “Predicting AC Optimal Power Flows : Combining Deep Learning and Lagrangian Dual Methods”. *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, pages 630–637, 2020.
37. Atena Tabakhi, William Yeoh, **Ferdinando Fioretto**. “The Smart Appliance Scheduling Problem : A Bayesian Optimization Approach”. *Proceedings of the International Conference on Principles and Practice of Multi-Agent Systems (PRIMA)*, 100–115, 2020.
38. **Ferdinando Fioretto**, Pascal Van Hentenryck. “Privacy-Preserving Federated Data Sharing”. *Proceedings of the International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, pages 638–646, 2019.
39. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. “Privacy-Preserving Obfuscation of Critical Infrastructure Networks”. *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, pages 1086–1092, 2019.
40. **Ferdinando Fioretto**, Pascal Van Hentenryck. “Differential Privacy of Hierarchical Census Data : An Optimization Approach”. *Proceedings of the International Conference on Principles and Practice of Constraint Programming (CP)*, pages 639–655, 2019. **[Invited to Constraint journal]**.

SELECTED SYNERGISTIC ACTIVITIES

- **Editorial Board Member :**
Artificial Intelligence Journal 2024 – current
- **Conference co-chair and Organizing Committee :**
 - Conference Chair :** International Conference on Principles and Practice of Constraint Programming (CP) 2022
 - Track Chair :** International Joint Conference on Artificial Intelligence (IJCAI) 2023
 - Tutorial Chair :** International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2022
- **Workshop co-organizer :**
 - Workshop on Optimization and Learning in Multi-Agent Systems, at AAMAS 2018 – 2022
 - Workshop on Privacy Preserving Artificial Intelligence, (at AAAI) 2020 – 2025

Algorithmic Fairness through the Lens of Causality and Privacy, (at NeurIPS) 2022 – 2024
 Workshop on Machine Learning for Operational Research, (at AAAI) 2022, 2024

➤ **Area Chair :**

AAAI Conference on Artificial Intelligence (AAAI) 2020 – 2025
 International Joint Conference on Artificial Intelligence (IJCAI) 2021 – 2025
 International Conference on Machine Learning (ICML) 2025
 ACM Conference on Fairness, Accountability, and Transparency (FACCT) 2023 – 2025
 European Conference on Machine Learning (ECML) 2023 – 2024
 European Conference on Artificial Intelligence (ECAI) 2023 – 2024
 Conference on Neural Information Processing Systems (NeurIPS) 2023 – 2024
 International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2024

COLLABORATIONS AND AFFILIATIONS

Name	Organizational Affiliation	Last Active
Cormode, Graham	Meta	02/24
Steinke, Thomas	Google Research	02/24
Tao, Yuchao	Duke University	02/24
Pujol, David	Tumult Labs	02/24
Machanavajjhala, Ashwin	Duke University	02/24
Ye, Jiayuan	National University of Singapore	02/24
Shokri, Reza	National University of Singapore	02/24
Thakurta, Abhradeep	Google DeepMind	02/24
Papernot, Nicolas	University of Toronto and Vector Institute	02/24
Bonawitz, Kallista	Google	02/24
Kairouz, Peter	Google	02/24
McMahan, Brendan	Google	02/24
Ramage, Daniel	Google	02/24
M. Abowd, John	Cornell University	02/24
B Hawes, Michael	US Census	02/24
Kifer, Daniel	Penn State University	02/24
M. Suriyakumar, Vinith	Massachusetts Institute of Technology	02/24
Goldenberg, Anna,	The Hospital for Sick Children	02/24
Ghassemi, Marzyeh	Massachusetts Institute of Technology	02/24
Anderson, James	Columbia University	02/24
Zhou, Fengyu	California Institute of Technology	02/24
H. Low, Steven	California Institute of Technology	02/24
Fan, Liyue	University of North Caroline	02/24
Gaboardi, Marco	Boston University	02/24
Hay, Michael	Colgate University	02/24
Vadhan, Salil	Harvard University	02/24
Gipson, Bryant	Google	02/24
Terzis, Andreas	Google	02/24
Sushko, Yurii	Google	02/24
Desfontaines, Damien	Tumult Labs	02/24
Cherubin, Giovanni	Alan Turing Institute	02/24
Chatzikokolakis, Konstantinos	University of Athens	02/24
Palamidessi, Catuscia	Inria and Institut Polytechnique de Paris	02/24
Seeman, Jeremy	Pennsylvania State University	02/24
Cummings, Rachel	Columbia University	02/24
Baek, Stephen	University of Virginia	02/24
(Continue to next page)		

Name	Organizational Affiliation	Last Active
Romanelli, Marco	New York University	02/24
Zhang, Aidong	University of Virginia	01/24
Wang, Tianhao	University of Virginia	01/24
Evans, David	University of Virginia	01/24
Behl, Madhur	University of Virginia	01/24
Li, Sheng	University of Virginia	01/24
Heng Huang	University of Maryland, College Park	01/24
Koenig, Sven	University of Southern California	01/24
Pan, Hai	New Jersey Institute of Technology	01/24
Hooker, Sara	Cohere AI	11/23
Task, Christine	Knexus Research	10/23
Dvorkin, Vladimir	University of Michigan	11/23
Van Hentenryck, Pascal	Georgia Institute of Technology	08/23
Yeoh, William	Washington University in St. Louis	01/23
My T. Thai	University of Florida	01/23
Pontelli, Enrico	New Mexico State University	01/22
Soundarajan, Sucheta	Syracuse University	01/22
Bowen, Claire	Urban Institute	01/22
Wang, Yeqing	Syracuse University	01/22
Baker, Kyri	UC Boulder	01/24
Zivan, Roie	Ben-Gurion University	01/22
Wilder, Bryan	Carnegie Mellon University	01/21
Mak, Terrence, W. K.	Georgia Institute of Technology	04/21
Tabakhi, Atena, M.	Washington University in St. Louis	12/20
Lombardi, Michele	University of Bologna	01/20
Pinson, Pierre	Technical University of Denmark	01/20
Kazempour, Jalal	Technical University of Denmark	01/20