Ferdinando Fioretto — Curriculum Vitae

Dept. of Electrical Engineering & Computer Science
Syracuse University
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Research Interests: Artificial Intelligence; Integration of Machine Learning and Optimization; Differential Privacy; Algorithmic Fairness; Multiagent Systems.

Professional Experience

Dept. of Electrical Engineering and Computer Science, **Syracuse University**, Syracuse, NY
Assistant Professor — Jan 2020 – Current

School of Industrial and System Engineering, **Georgia Institute of Technology**, Atlanta, GA
Infrastructure and Optimization Laboratory (Pascal Van Hentenryck)
Post-doctoral Researcher — Sep 2018 – Dec 2019

Dept. of Industrial and Operations Engineering, **University of Michigan**, Ann Arbor, MI
Infrastructure and Optimization Laboratory (Pascal Van Hentenryck)
Research Fellow — Sep 2016 – Aug 2018

Education

Ph.D. in Computer Science — Jan 2012 – Aug 2016
University of Udine[1], Udine, IT
[Award]: AI*IA best AI dissertation, 2017

M.Sc. in Computer Science — Aug 2010 – Dec 2011
New Mexico State University, Las Cruces, NM

B.Sc. (Laurea) in Computer Science — Nov 2005 – Nov 2009
University of Parma, Parma, IT

Honors and Awards

Research

- Early Career Researcher Award – *Association for Constraint Programming* [press] — 2022
- Finalist, *ISSNAF Young Investigator Award* — 2021
- Outstanding Reviewer Award – *NeurIPS* [link] — 2021
- Best Paper Award – *IEEE Transaction of Power System* [link] — 2021
- Differentially Private Temporal Map Challenge ($5,000) – *NIST* [press] — 2021
- Finalist, *ISSNAF Mario Gerla Young Investigator Award* [press] — 2020
- IJCAI Journal track invited paper – *IJCAI* [link] — 2019
- Best AI Dissertation Award – *AI*IA* [press] — 2017
- Most Visionary Workshop Paper Award – *AAMAS* [link] — 2017
- 3 Years Ph.D. Scholarship Award ($\sim \$47,000$) – *University of Udine* — 2013 – 2016

[1] Dual degree with New Mexico State University, US

- Best Student Paper Award – *CMSB* [link] 2013
- Outstanding Research Assistant Award – *NMSU CS* [press] 2013
- Outstanding Graduate Assistantship Award – *NMSU* 2012

Teaching

- Outstanding Teaching Assistant Nomination – *NMSU CS* 2014
- Outstanding Teaching Assistant Award – *NMSU CS* [press] 2012

Other Awards

Top 5% Graduate Student Honor's Cord (NMSU, 2016), Computer Science Scholarship ($1500) (NMSU, 2013), Honors Graduate Recognition for Outstanding Academic Success (NMSU, 2012) Erasmus Scholarship ($\sim \$14,000$) (University of Leeds, 2008).

Travel Grants

AAAI'20 Tutorial and Workshops (2020), AAAI'18 Tutorial Grant (2018), CP'16 Travel Support (2016), IJCAI'16 Travel Support (2016), AAMAS'16 Travel Support (2016), CP'15 Travel Support (2015), AAMAS'15 Travel Support (2015), AAAI/SIGAI Doctoral Consortium Travel Support (2015), CP'14 Travel Support (2014), CMSB'13 Conference Funding (2013), RR'13 NFS Travel Support (2013), ASNMSU Conference Funding (2012,2013,2014,2015), NMSU Graduate Student Travel Grant (2012).

Research Grants

- **National Science Foundation, CISE, SaTC: Core**. Oct. 2021–Sep. 2024.
  $265,000. "Collaborative Research: SaTC: Core: Small: Privacy and Fairness in Critical Decision Making".
  PI: Ferdinando Fioretto.
- **CUSE Grant Program**. Jun. 2021–May 2023.
  $21,000 "On the Potential Perils of Fairness Algorithms in Decision Making and Learning Tasks".
  PI: Ferdinando Fioretto, **Co-PI**: Sucheta Soundarajan.
- **National Science Foundation, CISE, RI: Core**. Oct. 2020–Sep. 2023.
  $266,000. "Collaborative Research: RI: Small: Deep Constrained Learning for Power Systems".
  PI: Ferdinando Fioretto.

Publications

Total citations: 851, h-index: 17 (Google Scholar, November, 2021)
Names of students I supervise(d) are colored.

Journal Articles

j11. **Ferdinando Fioretto**, Pascal Van Hentenryck, Keyu Zhu. *"Differential Privacy of Hierarchical Census Data: An Optimization Approach"*. **Artificial Intelligence Journal (AIJ)**, (296), pages 103475, 2021.
[Award]: Invited to IJCAI 2021 journal track.

j10. Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Pierre Pinson, Jalal Kazempour. *"Differentially Private Optimal Power Flow for Distribution Grids"*. **IEEE Transactions on Power Systems**, 36(3), pages 2186–2196, 2021.

j9. Terrence W.K. Mak, **Ferdinando Fioretto**, Lyndon Shi, Pascal Van Hentenryck. *"Privacy-Preserving Power System Obfuscation: A Bilevel Optimization Approach""* **IEEE Transactions on Power Systems**, 35(2), pages 1627–1637, 2020.
[Award]: Best IEEE TPS paper award 2021.
Assigned to 7 out of all papers published in 2018–2020.

j8. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. *"Differential Privacy for Power Grid Obfuscation"* **IEEE Transactions on Smart Grids**, 11(2), pages 1356–1366, 2020.

j7. **Ferdinando Fioretto**, Pascal Van Hentenryck. *"OptStream: Releasing Time Series Privately"* **Journal of Artificial Intelligence Research (JAIR)**, 65 pages 423–456, 2019.
[Award]: Invited to IJCAI 2020 journal track.

j6. **Ferdinando Fioretto**, Agostino Dovier, Enrico Pontelli. *"Distributed Multi-Agent Optimization for Smart Grids and Home Automation"* **Intelligenza Artificiale (IA)**, 12 (2), pages: 67–87, 2019
[Award]: Invited - Best 2017 Thesis in Artificial Intelligence (AI*IA).

j5. **Ferdinando Fioretto**, Enrico Pontelli, William Yeoh. *"Distributed Constraint Optimization Problems and Applications: A Survey"* **Journal of Artificial Intelligence Research (JAIR)**, 61, pages 623–698, 2018.

j4. **Ferdinando Fioretto**, William Yeoh. *"AI Buzzwords Explained: Distributed Constraint Optimization Problems"* **AI Matters**, 3 (4), pages 8–13, 2018.

j3. **Ferdinando Fioretto**, Enrico Pontelli, William Yeoh, Rina Detcher. *"Accelerating Exact and Approximate Inference for (Distributed) Discrete Optimization with GPUs"* **Constraints**, 23 (1), pages 1–43, 2018.

j2. **Ferdinando Fioretto**, Agostino Dovier, Enrico Pontelli. *"Constrained Community-based Gene Regulatory Network Inference"* **ACM Transactions on Modeling and Computer Simulation (TOMACS)**, 25 (2), pages 11:1–11:26, 2015.

j1. (α-β)[2] Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli. *"A Constraint Solver for Flexible Protein Models"* **Journal of Artificial Intelligence Research (JAIR)**, 48, pages 953–1000, 2013.

Book Chapters and Magazines

b2. William Kluegel, Muhammad A. Iqbal, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. "A Realistic Dataset for the Smart Home Device Scheduling Problem for DCOPs". In *Lecture Notes in Computer Science (LCNS)*, LNCS, volume 10643 pages 125–142, Springer, 2017
[Award]: Most Visionary Paper Award (AAMAS workshop series).

b1. Moinul M.P. Chowdhury, Russell Y. Folk, **Ferdinando Fioretto**, Christopher Kiekintveld, William Yeoh. In *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.

Conferences Papers (Full Papers) – Rigorously peer-reviewed

c42. Cuong Tran, My H. Dinh, **Ferdinando Fioretto**. "Differentially Private Deep Learning under the Fairness Lens" In *Proceedings of the* **Conference on Neural Information Processing Systems (NeurIPS)**, 2021. Acceptance Rate: *26.0%*.

c41. James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck. "Learning Hard Optimization Problems: A Data Generation Perspective" In *Proceedings of the* **Conference on Neural Information**

[2]Author list is order alphabetically.

Processing Systems (NeurIPS), 2021. Acceptance Rate: *26.0%*.

c40. Cuong Tran, **Ferdinando Fioretto**, Pascal Van Hentenryck, Zhiyan Yao. "Decision Making with Differential Privacy under the Fairness Lens" In *Proceedings of the* **International Joint Conference on Artificial Intelligence (IJCAI)**, 560–566, 2021. Acceptance Rate: *13.9%*.

c39. James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck, Bryan Wilder. "End-to-End Constrained Optimization Learning: A Survey" In *Proceedings of the* **International Joint Conference on Artificial Intelligence (IJCAI)**, 4475–4482, 2021. Acceptance Rate: *30.1%*.

c38. Keyu Zhu, Pascal Van Hentenryck, **Ferdinando Fioretto**. "Bias and Variance of Post-processing in Differential Privacy". In *Proceedings of the* **AAAI Conference on Artificial Intelligence (AAAI)**, 11177–11184, 2021. Acceptance Rate: *21.0%*.

c37. Cuong Tran, **Ferdinando Fioretto**, Pascal Van Hentenryck. "Differentially Private and Fair Deep Learning: A Lagrangian Dual Approach". In *Proceedings of the* **AAAI Conference on Artificial Intelligence (AAAI)**, 9932–9939, 2021. Acceptance Rate: *21.0%*.

c36. Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Jalal Kazempour, Pierre Pinson. "Differentially Private Optimal Power Flow for Distribution Grids". In Proceeding of **I**EEE PowerTech, 2021. Acceptance Rate: *unknown*.

c35. Atena Tabakhi, William Yeoh, **Ferdinando Fioretto**. "The Smart Appliance Scheduling Problem: A Bayesian Optimization Approach" In *Proceedings of the* **International Conference on Principles and Practice of Multi-Agent Systems (PRIMA)**, 100–115, 2020. Acceptance Rate: *38.0%*.

c34. **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. Acceptance Rate: *19%*.

c33. **Ferdinando Fioretto**, Lesia Mitridati, Pascal Van Hentenryck. "Differential Privacy Stackebelg Games". Proceedings of the **International Joint Conference on Artificial Intelligence (IJCAI)**, 3480–3486, 2020. Acceptance Rate: *12.6%*.

c32. **Ferdinando Fioretto**, Pascal Van Hentenryck. "OptStream: Releasing Time Series Privately" Proceedings of the **International Joint Conference on Artificial Intelligence (IJCAI)**, 5135–5139, 2020. Acceptance Rate: *unknown*.
[Award]: Invited to the IJCAI journal track.

c31. 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. Acceptance Rate: *∼30%*.

c30. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. "Predicting AC Optimal Power Flows: Combining Deep Learning and Lagrangian Dual Methods". In *Proceedings of the* **AAAI Conference on Artificial Intelligence (AAAI)**, pages 630–637, 2020. Acceptance Rate: *20.6%*.

c29. **Ferdinando Fioretto**, Pascal Van Hentenryck. "Differential Privacy of Hierarchical Census Data: An Optimization Approach". In *Proceedings of the* **International Conference on Principles and Practice of Constraint Programming (CP)**, pages 639–655, 2019. Acceptance Rate: *37%*.
[Award]: Invited to Constraint journal fast track - selected papers.

c28. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. "Privacy-Preserving Obfuscation of Critical Infrastructure Networks". In *Proceedings of the* **International Joint Conference on Artificial Intelligence (IJCAI)**, pages 1086–1092, 2019. Acceptance Rate: *17.9%*.

c27. **Ferdinando Fioretto**, Pascal Van Hentenryck. "Privacy-Preserving Federated Data Sharing". In

Proceedings of the **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 638–646, 2019. Acceptance Rate: *24%*.

c26. **Ferdinando Fioretto**, Hong Xu, Sven Koenig, TK Satish Kumar. "Solving Multiagent Constraint Optimization Problems on the Constraint Composite Graph". In *Proceedings of the* **International Conference on Principles and Practice of Multi-Agent Systems (PRIMA)**, pages 106–122, 2018. Acceptance Rate: *26%*.

c25. **Ferdinando Fioretto**, Chansoo Lee, Pascal Van Hentenryck. "Constrained-based Differential Privacy for Private Mobility". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 1405–1413, 2018. Acceptance Rate: *25%*.

c24. Khoi Hoang, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli, Roie Zivan. "A Large Neighboring Search Schema for Multi-Agent Optimization". In *Proceedings of the* **International Conference on Principles and Practice of Constraint Programming (CP)**, pages 688–706, 2018 Acceptance Rate: *33%*.

c23. **Ferdinando Fioretto**, Pascal Van Hentenryck. "Constrained-based Differential Privacy: Releasing Optimal Power Flow Benchmarks Privately". In *Proceedings of the* **International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR)**, pages 215–231, 2018. Acceptance Rate: *48%*.

c22. **Ferdinando Fioretto**, Hong Xu, Sven Koenig, TK Satish Kumar. "Constraint Composite Graph-Based Lifted Message Passing for Distributed Constraint Optimization Problems". In **International Symposium on Artificial Intelligence and Mathematics (ISAIM)**, 2018. Acceptance Rate: *Unknown*.

c21. **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli, Ye Ma, Satishkumar J. Ranade. "A Distributed Constraint Optimization (DCOP) Approach to the Economic Dispatch with Demand Response". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 999–1007, 2017. Acceptance Rate: *25%*.

c20. **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. "A Multiagent System Approach to Scheduling Devices in Smart Homes". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 981–989, 2017. Acceptance Rate: *25%*.

c19. Khoi Hoang, Ping Hou, **Ferdinando Fioretto**, Makoto Yokoo, William Yeoh, Roie Zivan. "Infinite-Horizon Proactive Dynamic DCOPs". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 212–220, 2017. Acceptance Rate: *25%*.

c18. Atena M. Tabakhi, Tiep Le, **Ferdinando Fioretto**, William Yeoh. "Preference Elicitation for DCOPs". In *Proceedings of the* **International Conference on Principles and Practice of Constraint Programming (CP)**, pages 278–296, 2017. Acceptance Rate: *43%*.

c17. Khoi Hoang, **Ferdinando Fioretto**, Ping Hou, Makoto Yokoo, William Yeoh, Roie Zivan. "Proactive Dynamic Distributed Constraint Optimization Problems". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 597–605, 2016. Acceptance Rate: *25%*.

c16. Tiep Le, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli, Tran Cao Son. "ER-DCOPs: A Framework for Distributed Constraint Optimization Problems With Uncertainty". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 606–614, 2016. Acceptance Rate: *25%*.

c15. **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. "Multi-Variable Agent Decompositions for DCOPs". In *Proceedings of the* **AAAI Conference on Artificial Intelligence (AAAI)**, pages

2480–2486, 2016. Acceptance Rate: *26%*.

c14. **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. 'A Dynamic Programming-Based MCMC Framework for Solving DCOPs with GPUs". In *Proceedings of the* **International Conference on Principles and Practice of Constraint Programming (CP)**, pages 813–831, 2016. Acceptance Rate: *35%*.

c13. **Ferdinando Fioretto**, Tiep Le, Enrico Pontelli, William Yeoh, Tran Cao Son. "Exploiting GPUs in Solving (Distributed) Constraint Optimization Problems with Dynamic Programming" In *Proceedings of the* **International Conference on Principles and Practice of Constraint Programming (CP)**, pages 121–139, 2015. Acceptance Rate: *49%*.

c12. (α-β) Federico Campeotto, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli. "A GPU Implementation of Large Neighborhood Search for Solving Constraint Optimization Problems". In *Proceedings of the* **European Conference of Artificial Intelligence (ECAI)**, pages 189–194, 2014. Acceptance Rate: *28%*.

c11. **Ferdinando Fioretto**, Tiep Le, William Yeoh, Enrico Pontelli, Tran Cao Son. "Improving DPOP with Branch Consistency for Solving Distributed Constraint Optimization Problems". In *Proceedings of the* **International Conference on Principles and Practice of Constraint Programming (CP)**, pages 307–323, 2014. Acceptance Rate: *50%*.

c10. (α-β) Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli. "Exploring the Use of GPUs in Constraint Solving". In *Proceedings of the* **Practical Aspects of Declarative Languages (PADL)**, pages 152–167, 2014. Acceptance Rate: *55%*.

c9. **Ferdinando Fioretto**, Enrico Pontelli. "Constraint Programming in Community-based Gene Regulatory Network Inference". In *Proceedings of the* **Computational Methods in System Biology (CMSB)**, pages 135–149, 2013 Acceptance Rate: *55%*.
[Award]: Best Student Paper Award.

c8. (α-β) Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, **Ferdinando Fioretto**, Enrico Pontelli. "A Filtering Technique for Fragment Assembly-based Proteins Loop Modeling with Constraints". In *Proceedings of the* **International Conference on Principles and Practice of Constraint Programming (CP)**, pages 850–866, 2012. Acceptance Rate: *36%*.

Conferences Papers (Short Papers) – Rigorously peer-reviewed

c7. Anudit Nagar, Cuong Tran, **Ferdinando Fioretto**. "A Privacy-Preserving and Accountable Multi-agent Learning Framework". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, 1605–1606, 2021. Acceptance Rate: 40%.

c6. **Ferdinando Fioretto**, Federico Campeotto, Agostino Dovier, Enrico Pontelli, William Yeoh. "Large Neighborhood Search with Quality Guarantees for Distributed Constraint Optimization Problems". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 1835–1836, 2015. Acceptance Rate: 46%.

c5. **Ferdinando Fioretto**. "Exploiting the Structure of Distributed Constraint Optimization Problems". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 2007–2008, 2015. Acceptance Rate: *Unknown*.

c4. **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. "Decomposition Techniques for DCOPs to Exploit Multi-Variable Agents and Multi-Level Parallelism". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 1823–1824, 2015. Acceptance Rate: 46%.

c3. **Ferdinando Fioretto**. "Exploiting the Structure of Distributed Constraint Optimization Problems".

In *Proceedings of the* **AAAI Conference on Artificial Intelligence (AAAI)**, pages 4233–4234, 2015. Acceptance Rate: *Unknown*.

c2. **Ferdinando Fioretto**, Federico Campeotto, Luca Da Rin Fioretto, William Yeoh, Enrico Pontelli "GD-Gibbs: A GPU-based Sampling Algorithm for Solving Distributed Constraint Optimization Problems". In *Proceedings of the* **International Conference on Autonomous Agents and Multiagent Systems (AAMAS)**, pages 1339–1340, 2014. Acceptance Rate: 46%.

c1. Michael R. Best, **Ferdinando Fioretto**, Alessandro Dal Palù, Enrico Pontelli, Tran Son, TuShun R. Powers, Elba E. Serrano "The role of secondary and tertiary structure prediction in determining the function of novel genes found in Xenopus Leavis". In **Neuroscience**, 2011, (518.20/ZZ45). Acceptance Rate: Unknown.

Symposium and Workshop Papers

w19. Cuong Tran, **Ferdinando Fioretto**. "Decision Making with Differential Privacy under the Fairness Lens" In **Theory and Practice of Differential Privacy (TPDP)–at ICML**, 2021.

w18. Anudit Nagar, Cuong Tran, **Ferdinando Fioretto**. "A Privacy-Preserving and Accountable Multi-agent Learning Framework". In **International Workshop on Learning and Optimisation in Multi-Agent Systems (OPTLearnMAS)–at AAMAS**, 2021.

w17. Cuong Tran, **Ferdinando Fioretto**, Pascal Van Hentenryck. "Differentially Private and Fair Deep Learning: A Lagrangian Dual Approach". In **AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI)–at AAAI**, 2021.

w16. **Ferdinando Fioretto**, Cuong Tran, Pascal Van Hentenryck. "Lagrangian Duality for Constrained Deep Learning" In **INFORMS**, 2020.

w15. Lesia Mitridati, **Ferdinando Fioretto**, Pascal Van Hentenryck. "Differential Privacy For Stackelberg Games: An Application To Gas And Electricity Markets" In **INFORMS**, 2020.

w14. Khoi Hoang, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli, Roie Zivan. "A Large Neighboring Search Schema for Multi-Agent Optimization". In **International Workshop on Optimisation in Multi-Agent Systems (OPTMAS)**, 2019.

w13. **Ferdinando Fioretto**, Hong Xu, Sven Koenig, TK Satish Kumar. "Solving Multiagent Constraint Optimization Problems on the Constraint Composite Graph". In **International Workshop on Optimisation in Multi-Agent Systems (OPTMAS)**, 2018.

w12. William Kluegel, Muhammad Aamir Iqbal, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. "A Realistic Dataset for the Smart Home Device Scheduling Problem for DCOPs". In **International Workshop on Optimisation in Multi-Agent Systems (OPTMAS)**, 2017.

w11. **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. "A Multiagent System Approach to Scheduling Devices in Smart Homes". In **Workshop on AI for Smart Grids and Smart Buildings (AISGSB)**, 2017.

w10. Atena M. Tabakhi, **Ferdinando Fioretto**, William Yeoh. "A Preliminary Study on Preference Elicitation in DCOPs for Scheduling Devices in Smart Buildings". In *10th Workshop on* **Advances in Preference Handling (MPREF)**, 2016.

w9. Porag Chowdhury, Russell Y. Folk, **Ferdinando Fioretto**, Christopher Kiekintveld, William Yeoh. "Investigation of Learning Strategies for the SPOT Broker in Power TAC". In **International Workshop on Agent Mediated Electronic Commerce and Trading Agents Design and Analysis (AMEC/TADA)**, 2016.

w8. Khoi Hoang, **Ferdinando Fioretto**, Ping Hou, Makoto Yokoo, William Yeoh, Roie Zivan. "Proactive

Dynamic DCOPs". In **Workshop on AI for Smart Grids and Smart Buildings (AISGSB)**, 2016.

w7. **Ferdinando Fioretto**, Federico Campeotto, Agostino Dovier, Enrico Pontelli, William Yeoh. "Large Neighborhood Search with Quality Guarantees for Distributed Constraint Optimization Problems". In **International Workshop on Optimization in Multi-Agent Systems (OptMAS)**, 2015.

w6. Ferdinando Fioretto, Tiep Le, William Yeoh, Enrico Pontelli, Tran Cao Son. "Improving DPOP with Branch Consistency for Solving Distributed Constraint Optimization Problems". In **International Workshop on Optimization in Multi-Agent Systems (OptMAS)**, 2015.

w5. (α-β) Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, Ferdinando Fioretto, Enrico Pontelli. "Experimenting with FIASCO for protein structure prediction". In **Workshop on Constraint Based Methods for Bioinformatics (WCB)**, 2014.

w4. (α-β) Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, Ferdinando Fioretto, Enrico Pontelli. "Towards a complete constraint solver on GPU". In **Workshop on Parallel Methods for Search & Optimization (ParSearchOpt)**, 2014.

w3. Ferdinando Fioretto, Enrico Pontelli. "Community-based Gene Regulatory Network Inference via Constraint Programming". In **Workshop on Constraint Based Methods for Bioinformatics (WCB)**, 2013.

w2. (α-β) Federico Campeotto, Alessandro Dal Palù, Agostino Dovier, Ferdinando Fioretto, Enrico Pontelli. "Protein Loop Modelling via Constraints and Fragment Assembly". In **Workshop on Constraint Based Methods for Bioinformatics (WCB)**, 2012.

w1. (α-β) Michael R. Best, Kabi Bhattarai, Federico Campeotto, Alessandro Dal Palù, Hung Dang, Agostino Dovier, Ferdinando Fioretto, Federico Fogolari, Tiep Le, Enrico Pontelli. "Introducing FIASCO: Fragment-based Interactive Assembly for protein Structure prediction with COnstraints". In **Workshop on Constraint Based Methods for Bioinformatics (WCB)**, 2011.

Editorial Articles

e2. Ferdinando Fioretto et al. "AAAI Workshop on Privacy Preserving Artificial Intelligence Report". **AI Magazine**, 2020.

e1. Ferdinando Fioretto, Enrico Pontelli. "Past and present (and future) of parallel and distributed computation in (constraint) logic programming". **Theory and Practice of Logic Programming (TPLP)**, 18(5-6), pages 722-724, 2018.

Preprints and Archived Articles

i25. Cuong Tran, My H. Dinh, Kyle Beiter, **Ferdinando Fioretto**. "A Fairness Analysis on Private Aggregation of Teacher Ensembles". *CoRR abs/2109.08630*, 2021.

i24. Cuong Tran, My H. Dinh, **Ferdinando Fioretto**. "Differentially Private Deep Learning under the Fairness Lens". *CoRR abs/2106.02674*, 2021.

i23. James Kotary **Ferdinando Fioretto**, Pascal Van Hentenryck. "Learning Hard Optimization Problems: A Data Generation Perspective". *CoRR abs/2106.02601*, 2021.

i22. Anudit Nagar, Cuong Tran, **Ferdinando Fioretto**. "A Privacy-Preserving and Trustable Multi-agent Learning Framework" *CoRR abs/2106.01242*, 2021.

i21. **Ferdinando Fioretto**, Cuong Tran, Pascal Van Hentenryck. "Decision Making with Differential Privacy under a Fairness Lens". *CoRR abs/2105.07513*, 2021.

i20. James Kotary, **Ferdinando Fioretto**, Pascal Van Hentenryck, Bryan Wilder. "End-to-End Constrained Optimization Learning: A Survey" *CoRR abs/2103.16378*, 2021.

i19. Terrence W.K. Mak, **Ferdinando Fioretto**, Pascal VanHentenryck. "Load Embeddings for Scalable AC-OPF Learning" *CoRR abs/2101.03973*, 2021.

i18. Keyu Zhu, Pascal Van Hentenryck, **Ferdinando Fioretto**. "Bias and Variance of Post-processing in Differential Privacy". *CoRR abs/2010.04327*, 2020.

i17. Cuong Tran, **Ferdinando Fioretto**, Pascal Van Hentenryck. "Differentially Private and Fair Deep Learning: A Lagrangian Dual Approach". *CoRR abs/2009.12562*, 2020.

i16. Minas Chatzos, **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. "High-Fidelity Machine Learning Approximations of Large-Scale Optimal Power Flow". *CoRR abs/2006.16356*, 2020.

i15. **Ferdinando Fioretto**, Pascal Van Hentenryck, Keyu Zhu. "Differential Privacy of Hierarchical Census Data: An Optimization Approach". *CoRR abs/2006.15673*, 2020.

i14. Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Jalal Kazempour, Pierre Pinson. "Differentially Private Convex Optimization with Feasibility Guarantees". *CoRR abs/2006.12338*, 2020.

i13. Vladimir Dvorkin, **Ferdinando Fioretto**, Pascal Van Hentenryck, Jalal Kazempour, Pierre Pinson. "Differentially Private Optimal Power Flow for Distribution Grids". *CoRR abs/2004.03921*, 2020.

i12. **Ferdinando Fioretto**, Lesia Mitridati, Pascal Van Hentenryck. "Differential Privacy for Stackelberg Games". *CoRR abs/2002.00944*, 2020.

i11. **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". *CoRR abs/2001.09394*, 2020.

i10. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. "Bilevel Optimization for Differentially Private Optimization". *CoRR abs/2001.09508*, 2020.

i9. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. "Predicting AC Optimal Power Flows: Combining Deep Learning and Lagrangian Dual Methods". *CoRR abs/1909.10461*, 2019.

i8. **Ferdinando Fioretto**, Terrence W. K. Mak, Pascal Van Hentenryck. "Privacy-Preserving Obfuscation of Critical Infrastructure Networks". *CoRR abs/1905.09778*, 2019.

i7. Terrence W.K. Mak, **Ferdinando Fioretto**, Pascal Van Hentenryck. "Privacy-Preserving Obfuscation for Distributed Power Systems". *CoRR abs/1910.04250*, 2019.

i6. **Ferdinando Fioretto**, Terrence W.K. Mak, Pascal Van Hentenryck. "Differential Privacy for Power Grid Obfuscation". *CoRR abs/1901.06949*, 2019.

i5. **Ferdinando Fioretto**, Pascal Van Hentenryck. "Differential Private Stream Processing of Energy Consumption". *CoRR abs/1808.01949*, 2018.

i4. William Kluegel, Muhammad Aamir Iqbal, **Ferdinando Fioretto**, William Yeoh, Enrico Pontelli. "A Realistic Dataset for the Smart Home Device Scheduling Problem for DCOPs". *CoRR abs/1702.06970*, 2017.

i3. **Ferdinando Fioretto**, Agostino Dovier, Enrico Pontelli, William Yeoh, Roie Zivan. "Solving DCOPs with Distributed Large Neighborhood Search". *CoRR abs/1702.06915*, 2017.

i2. **Ferdinando Fioretto**, Enrico Pontelli, William Yeoh. "Distributed Constraint Optimization Problems and Applications: A Survey". *CoRR abs/1602.06347*, 2016.

i1. **Ferdinando Fioretto**, Enrico Pontelli, William Yeoh, Rina Dechter. "Accelerating Exact and Ap-

proximate Inference for (Distributed) Discrete Optimization with GPUs". *CoRR abs/1608.05288*, 2016.

Teaching

- CS 700 - Security and Privacy of Machine Learning *Spring 2021*, Syracuse University
  Course Evaluation: 4.56/5.00
- CS 467 - Introduction to Artificial Intelligence *Fall 2020*, Syracuse University
  Course Evaluation: 4.46/5.00
- CS 700 - Security and Privacy of Machine Learning *Spring 2020*, Syracuse University
  Course Evaluation: 4.55/5.00
- CS 176/CS 450 - C Programming *Fall 2013*, NMSU

Mentoring

Ph.D. Students

- Cuong Tran (SU, CISE) *2020 – current*
  Research: Differential Privacy and Fairness in Machine Learning.
- James Kotary (SU, CISE) *2020 – current*
  Research: Deep Learning and Optimization.
- My Dinh (SU. CISE) *2021 – current*
  Research: Differential Privacy, Machine Learning, and Optimization.

M.S. Students

- Pratik Paranjape (SU, CISE) *2020*
  Research: Generating datasets for preference elicitation.
  Current Position: *OthersideAI*
- Pavan Kumar Vaddineni (SU, CISE), *2020*
  Research: Explainable and Fair Learning.
  Current Position: *Same*
- William Kluegel (NMSU, CS) *2016 – 2018*
  Research: *Optimization and Preferences Elicitation for Smart Home Devices*
  Current Position: *Sandia National Labs*

B.S. Students

Shantanu Jhaveri (REU 2021), Kyle Beiter (REU 2021), Dayong Gu (SU 2021), Guoliang Chen (SU 2021), Pradyumn Yadav (SU 2021), Anudit Nagar (SU 2020 – 2021), Zhiyan Yao (SU 2020 – 2021), Zifei Lu (SU 2020), Thomas Montfort (SU 2020), Cong Liu (SU 2020), Lyndon Shi (UMich, 2018) Jiayu Chen (UMich, 2018) Eric Frechette (NMSU, 2016).

PhD Dissertation Committee

- Baocheng Geng, Syracuse University (CS)
- Pranay Sharma, Syracuse University (CS)

Tutorials and Invited Talks

- *Plenary Keynote Talk*, CP 2021 Oct 2021
- *Invited, ASPI Seminar.* Sep 2021
- *Invited Talk, SUPA ECS workshop.* May 2021
- *Invited Talk, REsearch Exposure in Socially Relevant Computing* Apr 2021
- *Invited Talk, ISSNAF* Nov 2020
- *Tutorial on Multiagent Optimization* (AAAI 2020) Feb 2020
- *CS Seminar*, University of Parma (CS Dept) Jun 2019
- *Tutorial on Multi-agent Optimization for IoT Applications* (AAMAS 2019) May 2019
- *CS Seminar*, University of Connecticut (CS Dept) Mar 2019
- *CS Seminar*, University of New Mexico (CS Dept) Mar 2019
- *CS Seminar*, Michigan State University (ECS Dept) Feb 2019
- *CS Seminar*, Colorado State University (CS Dept) Mar 2019
- *CS Seminar*, Syracuse University (EECS Dept) Feb 2019
- *CS Seminar*, Drexel University (CS Dept) Feb 2019
- *CS Seminar*, University of Arkansas (CS Dept) Feb 2019
- *CS Seminar*, Missouri University of Science and Technology (CS) Feb 2019
- *Lunch and Learn Seminar*, University of Denver (CS Dept) Feb 2019
- *AI Lab Seminar*, University of Michigan (EECS Dept) Aug 2018
- *Invited Presentation*, Privacy in Machine Learning and Artificial Intelligence Workshop (ICML/IJCAI/AAMAS 2018) Jun 2018
- *AI Seminar*, University of Southern California Information Sciences Institute (USC ISI) Mar 2018
- *Invited Seminar*, New Mexico State University (CS Dept) Mar 2018
- *Tutorial on Constrained Multi-agent Optimization* (AAAI 2018) Feb 2018
- *Plenary talk* (AI*IA 2017) Nov 2017
- *AI Seminar*, Delft University (TU Delft) Apr 2016
- *Research Seminar*, University of Udine Apr 2016
- *CS Colloquium*, New Mexico State University (CS Dept) Mar 2016
- *AI Seminar*, Ben-Gurion University of the Negev (CS Dept) Mar 2016

Service

Conference Chair

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

Workshop Chair

- *third AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI-22)* 2022
  (with Aleksandra Korolova and Pascal Van Hentenryck)
- *AAAI Workshop on Machine Learning for Operational Research (ML4OR-22)* 2022
  (with Emma Frejinger, Elias Khalil, and Pashootan Vaezipoor)
- *Second AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI-21)* 2021
  (with Pascal Van Hentenryck and Richard W. Evans)
- *Workshop on Optimization and Learning in Multi-Agent Systems, at AAMAS* 2021
  (with Amulya Yadev, Gauthier Picard, and Bryan Wilder)

- *First AAAI Workshop on Privacy Preserving Artificial Intelligence (PPAI-20)* 2020
  (with Pascal Van Hentenryck and Rachel Cummings)
- *Workshop on Optimization and Learning in Multi-Agent Systems, at AAMAS* 2020
  (with Bryan Wilder and Long Tran-Thanh)
- *Workshop on Optimization in Multi-Agent Systems, at AAMAS* 2019
  (with Archie Chapman and Long Tran-Thanh)
- *Workshop on Optimization in Multi-Agent Systems, at FAIM18* 2018
  (with Archie Chapman, Long Tran-Thanh, and Roie Zivan)

Conference Organizing Committee

- International Conference on Autonomous Agents and Multiagent Systems (AAMAS)
  Tutorial Chair 2022
- International Conference on Principles and Practice of Constraint Programming (CP)
  Track Chair, Multiagent and Parallel CP 2018 – 2019
- International Conference on Logic Programming (ICLP)
  Publicity Chair 2019
- International Symposium on Mathematical Programming (ISMP)
  Track Chair, Parallel Processing (Constraint Programming cluster) 2018
- Theory and Practice of Logic Programming (TPLP)
  Guest Editor, *Past and Present (and Future) of Parallel and Distributed Computation in (Constraint) Logic Programming* 2018

Editorial Board

- Proceedings on Privacy Enhancing Technologies (PoPETs) 2022

Senior Program Committee

- AAAI Conference on Artificial Intelligence (AAAI) 2020 – 2022
- International Joint Conference on Artificial Intelligence (IJCAI) 2021 – 2022
- International Conference on Principles and Practice of Constraint Programming (CP) 2018 – 2019

Program Committee

- AAAI Conference on Artificial Intelligence (AAAI) 2018 – 2019
- Distributed Artificial Intelligence (DAI) 2019
- European Conference on Artificial Intelligence (ECAI) 2016 – 2018
- European Conference on Machine Learning (ECML) 2020
- International Joint Conference on Artificial Intelligence (IJCAI) 2016 – 2020
- International Conference on Logic Programming (ICLP) 2021
- International Conference on Machine Learning (ICML) 2021
- International Conference on Principles and Practice of Constraint Programming (CP) 2016 – 2018, 2021
- International Symposium on Combinatorial Search (SoCS) 2015 – 2020
- International Workshop on Optimization in Multi-Agent Systems (OptMAS) 2016 – 2017
- International Workshop on Optimization and Learning in Multi-Agent Systems (OptLearnMAS) 2020
- Italian Conference on Computational Logic (CILC) 2017 – 2019
- Italian Conference on Artificial Intelligence (AI*IA) 2017
- Neural Information Processing Systems (NeurIPS) 2020 – 2021
- Privacy Enhancing Technologies Symposium (PETS) 2021

Journal Reviewer

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

Conference/Symposium/Workshop Reviewer

- AAAI Conference on Artificial Intelligence (AAAI) 2014 – 2017
- European Control Conference (ECC) 2021
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2014 – 2016
- International Conference on Learning Representations (ICLR) 2022
- 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

- Climate Change AI (CCAI) Grant 2022
- CUSE Grant, Syracuse University 2020 – 2021
- NSF external reviewer, CISE RI 2020

Last Update: *November, 2021*