Ferdinando FIORETTO
Assistant Professor

📍 307 Rice Hall, Computer Science, University of Virginia, Charlottesville, VA 22904 - U.S.A.
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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	**University of Udine**, *Computer Science*, Udine, IT PH.D. IN COMPUTER SCIENCE (WITH MS IN 2012)
Nov. 2009	**University of Parma**, *Computer Science & Mathematics*, Parma, IT BS. IN COMPUTER SCIENCE

RESEARCH AND PROFESSIONAL EXPERIENCE

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

SELECTED HONORS AND AWARDS

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

FULL PUBLICATION LIST AVAILABLE *"here"*

[1] Jacob K Christopher and **Ferdinando Fioretto**. *"Projected Generative Diffusion Models for Constraint Satisfaction"*. **CoRR abs**/2402.03559 (under review), 2024.

[2] Cuong Tran and **Ferdinando Fioretto**. *"Data Minimization at Inference Time"*. *Proceedings of the* **Conference on Neural Information Processing Systems (NeurIPS)**.

[3] Mostafa Mohammadian, Kyri Baker, **Ferdinando Fioretto**. *"Gradient-Enhanced Physics-Informed Neural Networks for Power Systems Operational Support"*. **Electric Power Systems Research**, pages 109551, 2023.

[4] 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.

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

[6] James Kotary, Vincenzo Di Vito, **Ferdinando Fioretto**. *"End-to-End Combinatorial Ensemble Learning"*. *Proceedings of the* **International Joint Conference on Artificial Intelligence (IJCAI)**, 2023.

[7] 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.

[8] **Ferdinando Fioretto**. *"Integrating Machine Learning and Optimization to Boost Decision Making"*. *Proceedings of the* **International Joint Conference on Artificial Intelligence (IJCAI)**, 2022.

9   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.

10   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.

11   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.

12   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.

13   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.

14   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.

15   **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.

16   **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.

17   Khoi D. Hoang, **Ferdinando Fioretto**, Ping Hou, William Yeoh, Makoto Yokoo, Roie Zivan. *"Proactive Dynamic Distributed Constraint Optimization Problems"*. **Journal of Artificial Intelligence Research (JAIR)**, (73), pages 179-225, 2022.

18   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.

19   **Ferdinando Fioretto**, Pascal Van Hentenryck, Keyu Zhu. *"Differential Privacy of Hierarchical Census Data : An Optimization Approach"*. **Artificial Intelligence Journal (AIJ)**, (296), pages 103475, 2021.

20   **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.

SELECTED SYNERGISTIC ACTIVITIES

> Conference co-chair and Organizing Committee :
  Conference Chair : International Conference on Principles and Practice of Constraint Programming (CP)   2022
  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

> Workshop co-organizer :
  Workshop on Optimization and Learning in Multi-Agent Systems, at AAMAS   2018–2022
  Workshop on Privacy Preserving Artificial Intelligence, (at AAAI)   2020–2024
  Algorithmic Fairness through the Lens of Causality and Privacy, (at NeurIPS)   2022, 2023
  Workshop on Machine Learning for Operational Research, (at AAAI)   2022, 2024

> Senior Program Committee/Area Chair :
  AAAI Conference on Artificial Intelligence (AAAI)   2020 – 2024
  International Joint Conference on Artificial Intelligence (IJCAI)   2021 – 2024

> ACM Conference on Fairness, Accountability, and Transparency (FAccT)   2023, 2024
  European Conference on Machine Learning (ECML)   2023

> European Conference on Artificial Intelligence (ECAI)   2023

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
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

Name	Organizational Affiliation	Last Active
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