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PUBLICATION LIST

Total number: 63 Citations: 1687 h-index: 21 Google Scholar **(D)** 0000-0001-7731-6650

(**Note:** highlighted publications are marked with a ★)

Preprints

- [1] L. F. O. Chamon, S. Paternain, and A. Ribeiro. Trust but verify: Assigning prediction credibility by counterfactual constrained learning, 2020. URL: https://arxiv.org/abs/2011.12344.
- [2] L. F. O. Chamon and C. G. Lopes. Combination of LMS adaptive filters with coefficients feedback. arXiv, 2016. URL: https://arxiv.org/abs/1608. 03248.

Patents

[1] D. Lamb, L. F. O. Chamon, V. H. Nascimento, and A. Spirer. Sparse cascadedintegrator-comb filters, 2019. URL: https://patents.google.com/patent/ US10367477B2. US10367477B2.

- **Journals** ★ [1] M. Calvo-Fullana, S. Paternain, **L. F. O. Chamon**, and A. Ribeiro. State augmented constrained reinforcement learning: Overcoming the limitations of learning with rewards. IEEE Trans. on Autom. Control., 2024. URL: https: //arxiv.org/abs/2102.11941.
 - [2] C. G. Lopes, V. H. Nascimento, and L. F. O. Chamon. Distributed universal adaptive networks. IEEE Trans. on Signal Process., 71:1817–1832, 2023. DOI: 10.1109/TSP.2023.3275812. URL: https://arxiv.org/abs/2307.05746.
 - [3] S. Paternain, M. Calvo-Fullana, L. F. O. Chamon, and A. Ribeiro. Safe policies for reinforcement learning via primal-dual methods. IEEE Trans. on Autom. Control., 68[3]:1321-1336, 2023. DOI: 10.1109/TAC.2022.3152724. URL: https://arxiv.org/abs/1911.09101.
 - [4] L. Ruiz, L. F. O. Chamon, and A. Ribeiro. Transferability properties of graph neural networks. IEEE Trans. on Signal Process., 71:3474-3489, 2023. DOI: 10.1109/TSP.2023.3297848. URL: https://arxiv.org/abs/2112.04629.
 - **★** [5] **L. F. O. Chamon**, S. Paternain, M. Calvo-Fullana, and A. Ribeiro. Constrained learning with non-convex losses. IEEE Trans. on Inf. Theory, 69[3]:1739-1760, 2023. DOI: 10.1109/TIT.2022.3187948. URL: https://arxiv.org/ abs/2103.05134.
 - [6] L. F. O. Chamon, A. Amice, and A. Ribeiro. Approximately supermodular scheduling subject to matroid constraints. IEEE Trans. on Autom. Control., 67[3]:1384-1396, 2022. DOI: 10.1109/TAC.2021.3071024. URL: https:// arxiv.org/abs/2003.08841.
 - ★ [7] L. Ruiz, L. F. O. Chamon, and A. Ribeiro. Graphon signal processing. IEEE Trans. on Signal Process., 69:4961-4976, 2021. DOI: 10.1109/TSP.2021. 3106857. URL: https://arxiv.org/abs/2003.05030.
 - ★ [8] L. F. O. Chamon, G. J. Pappas, and A. Ribeiro. Approximate supermodularity of Kalman filter sensor selection. IEEE Trans. on Autom. Control., 66[1]:49-63, 2021. DOI: 10.1109/TAC.2020.2973774. URL: https://arxiv. org/abs/1912.03799.
 - [9] M. Peifer, L. F. O. Chamon, S. Paternain, and A. Ribeiro. Sparse multiresolution representations with adaptive kernels. IEEE Trans. on Signal Process.,

- 68[1]:2031-2044, 2020. DOI: 10.1109/TSP.2020.2976577. URL: https://arxiv.org/abs/1905.02797.
- [10] L. F. O. Chamon, Y. C. Eldar, and A. Ribeiro. Functional nonlinear sparse models. *IEEE Trans. on Signal Process.*, 68[1]:2449–2463, 2020. DOI: 10.1109/TSP.2020.2982834. URL: https://arxiv.org/abs/1811.00577.
- ★ [11] M. Eisen, C. Zhang, L. F. O. Chamon, D. D. Lee, and A. Ribeiro. Learning optimal resource allocations in wireless systems. *IEEE Trans. on Signal Process.*, 67[10]:2775–2790, 2019. DOI: 10.1109/TSP.2019.2908906. URL: https://arxiv.org/abs/1807.08088. [Top 50 most accessed articles in IEEE TSP: May, July, Sept, Oct 2019].
- ★ [12] **L. F. O. Chamon** and A. Ribeiro. Greedy sampling of graph signals. *IEEE Trans. on Signal Process.*, 66[1]:34-47, 2018. DOI: 10.1109/TSP.2017. 2755586. URL: https://arxiv.org/abs/1704.01223.
 - [13] D. Lamb, L. F. O. Chamon, and V. H. Nascimento. An efficient filtering structure for spline interpolation and decimation. *IET Electronics Letters*, 52[1]:39–41, 2016. DOI: 10.1049/e1.2015.1957.
 - [14] H. F. Ferro, **L. F. O. Chamon**, and C. G. Lopes. FIR-IIR adaptive filters hybrid combination. *IET Electronics Letters*, 50[7]:501–503, 2014. DOI: 10.1049/el.2014.0248.

ML & Systems Conferences

- [1] J. Elenter, L. F. O. Chamon, and A. Ribeiro. Near-optimal solutions of constrained learning problems. In *International Conference on Learning Representations (ICLR)*, 2024. URL: https://arxiv.org/abs/2403.11844.
- [2] J. Cervino, **L. F. O. Chamon**, B. D. Haeffele, R. Vidal, and A. Ribeiro. Learning globally smooth functions on manifolds. In *International Conference on Machine Learning (ICML)*, 2023. URL: https://arxiv.org/abs/2210.00301.
- [3] I. Hounie, A. Ribeiro, and **L. F. O. Chamon**. Resilient constrained learning. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2023. URL: https://arxiv.org/abs/2306.02426.
- [4] I. Hounie, **L. F. O. Chamon**, and A. Ribeiro. Automatic data augmentation via invariance-constrained learning. In *International Conference on Machine Learning (ICML)*, 2023. URL: https://arxiv.org/abs/2209.15031.
- [5] A. Robey, **L. F. O. Chamon**, G. J. Pappas, and H. Hassani. Probabilistically robust learning: Balancing average- and worst-case performance. In *International Conference on Machine Learning (ICML)*, 2022. URL: https://arxiv.org/abs/2202.01136. **[spotlight]**.
- ★ [6] A. Robey*, **L. F. O. Chamon***, G. J. Pappas, H. Hassani, and A. Ribeiro. Adversarial robustness with semi-infinite constrained learning. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2021. URL: https://arxiv.org/abs/2110.15767. (* equal contribution).
- ★ [7] L. Ruiz, **L. F. O. Chamon**, and A. Ribeiro. Graphon neural networks and the transferability of graph neural networks. In *Conference on Neural Information Processing Systems (NeurIPS)*, 2020. URL: https://arxiv.org/abs/2006.03548.
- ★ [8] L.F.O.Chamon and A. Ribeiro. Probably approximately correct constrained learning. In Conference on Neural Information Processing Systems (NeurIPS), 2020. URL: https://arxiv.org/abs/2006.05487.
- ★ [9] S. Paternain, L. F. O. Chamon, M. Calvo-Fullana, and A. Ribeiro. Constrained reinforcement learning has zero duality gap. In *Conference on Neural Information Processing Systems (NeurIPS)*, pages 7555–7565, 2019. URL: https://arxiv.org/abs/1910.13393.

- [10] B. Arzani, S. Ciraci, **L. F. O. Chamon**, Y. Zhu, H. Liu, J. Padhye, B. T. Loo, and G. Outhred. 007: Democratically finding the cause of packet drops. In *USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, pages 419–435, 2018. URL: https://arxiv.org/abs/1802.07222.
- [11] B. Arzani, S. Ciraci, **L. F. O. Chamon**, Y. Zhu, H. Liu, J. Padhye, G. Outhred, and B. T. Loo. Closing the network diagnostics gap with Vigil. In *SIGCOMM (Poster)*, pages 40–42, 2017.
- [12] **L. F. O. Chamon** and A. Ribeiro. Approximate supermodularity bounds for experimental design. In *Conference on Neural Information Processing Systems (NeurIPS)*, pages 5403–5412, 2017. URL: https://arxiv.org/abs/1711.01501.

Control Conferences

- [1] B. A. Angélico, **L. F. O. Chamon**, S. Paternain, A. Ribeiro, and G. J. Pappas. Source seeking in unknown environments with convex obstacles. In *American Control Conference*, 2021. URL: https://arxiv.org/abs/1909.07496.
- [2] M. Calvo-Fullana, **L. F. O. Chamon**, and S. Paternain. Towards safe continuing task reinforcement learning. In *American Control Conference*, 2021. URL: https://arxiv.org/abs/2102.12585.
- [3] L. F. O. Chamon, A. Amice, S. Paternain, and A. Ribeiro. Resilient control: Compromising to adapt. In *IEEE Control and Decision Conference*, 2020. URL: https://arxiv.org/abs/2004.03726.
- [4] **L. F. O. Chamon**, S. Paternain, and A. Ribeiro. Counterfactual programming for optimal control. In *Learning for Dynamics & Control (L4DC)*, 2020.
- [5] A. Tsiamis, D. S. Kalogerias, **L. F. O. Chamon**, A. Ribeiro, and G. J. Pappas. Risk-constrained linear-quadratic regulators. In *IEEE Control and Decision Conference*, 2020. URL: https://arxiv.org/abs/2004.04685.
- [6] S. Paternain, M. Calvo-Fullana, **L. F. O. Chamon**, and A. Ribeiro. Learning safe policies via primal-dual methods. In *IEEE Control and Decision Conference*, pages 6491–6497, 2019.
- [7] V. L. Silva, **L. F. O. Chamon**, and A. Ribeiro. Model predictive selection: A receding horizon scheme for actuator selection. In *American Control Conference*, pages 347–353, 2019.
- [8] L. F. O. Chamon, A. Amice, and A. Ribeiro. Matroid-constrained approximately supermodular optimization for near-optimal actuator scheduling. In *IEEE Control and Decision Conference*, pages 3391–3398, 2019.
- [9] **L. F. O. Chamon**, G. Pappas, and A. Ribeiro. The mean square error in Kalman filtering sensor selection is approximately supermodular. In *IEEE Control and Decision Conference*, pages 343–350, 2017.

Signal Processing Conferences

- [1] L. Ruiz, **L. F. O. Chamon**, and A. Ribeiro. Transferable graph neural networks on large-scale stochastic graphs. In *Asilomar Conference on Signals, Systems and Computers*, 2021.
- [2] D. S. Kalogerias, **L. F. O. Chamon**, G. J. Pappas, and A. Ribeiro. Better safe than sorry: Risk-aware nonlinear Bayesian estimation. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, 2020. URL: https://arxiv.org/abs/1912.02933. [Best paper award].
- [3] L. Ruiz, **L. F. O. Chamon**, and A. Ribeiro. Graphon filters: Signal processing in very large graphs. In *European Signal Processing Conference (EUSIPCO)*, pages 1050–1054, 2020.

- [4] L. Ruiz, **L. F. O. Chamon**, and A. Ribeiro. The graphon Fourier transform. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, 2020. URL: https://arxiv.org/abs/1910.10195.
- [5] L. F. O. Chamon, S. Paternain, M. Calvo-Fullana, and A. Ribeiro. The empirical duality gap of constrained statistical learning. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, 2020. URL: https://arxiv.org/abs/2002.05183. [Best student paper award].
- [6] M. Eisen, C. Zhang, L. F. O. Chamon, D. D. Lee, and A. Ribeiro. Dual domain learning of optimal resource allocations in wireless systems. In *IEEE Inter*national Conference in Acoustic, Speech, and Signal Processing (ICASSP), pages 4729–4733, 2019.
- [7] M. Peifer, L. F. O. Chamon, S. Paternain, and A. Ribeiro. Sparse learning of parsimonious reproducing kernel Hilbert space models. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, pages 3292–3296, 2019.
- [8] L. F. O. Chamon, Y. C. Eldar, and A. Ribeiro. Sparse recovery over nonlinear dictionaries. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, pages 4878–4882, 2019.
- [9] **L. F. O. Chamon**, S. Paternain, and A. Ribeiro. Learning Gaussian processes with Bayesian posterior optimization. In *Asilomar Conference on Signals, Systems and Computers*, pages 482–486, 2019.
- [10] M. Eisen, C. Zhang, L. F. O. Chamon, D. D. Lee, and A. Ribeiro. Online deep learning in wireless communication systems. In *Asilomar Conference on Signals, Systems and Computers*, pages 1289–1293, 2018.
- [11] M. Peifer, **L. F. O. Chamon**, S. Paternain, and A. Ribeiro. Locally adaptive kernel estimation using sparse functional programming. In *Asilomar Conference on Signals, Systems and Computers*, pages 2022–2026, 2018.
- [12] **L. F. O. Chamon**, Y. C. Eldar, and A. Ribeiro. Strong duality of sparse functional optimization. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, pages 4739–4743, 2018.
- [13] **L. F. O. Chamon** and A. Ribeiro. Finite-precision effects on graph filters. In *IEEE Global Conference on Signal and Information Processing (GlobalSip)*, pages 603–607, 2017.
- [14] **L. F. O. Chamon** and A. Ribeiro. Universal bounds for the sampling of graph signals. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, pages 3899–3903, 2017.
- [15] **L. F. O. Chamon** and A. Ribeiro. Near-optimality of greedy set selection in the sampling of graph signals. In *IEEE Global Conference on Signal and Information Processing (GlobalSip)*, pages 1265–1269, 2016.
- [16] C. G. Lopes, L. F. O. Chamon, and V. H. Nascimento. Towards spatially universal adaptive networks. In *IEEE Global Conference on Signal and Information Processing (GlobalSip)*, pages 803–807, 2014.
- [17] L. F. O. Chamon and C. G. Lopes. There's plenty of room at the bottom: Incremental combinations of sign-error LMS filters. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, pages 7248–7252, 2014.
- [18] **L. F. O. Chamon** and A. M. P. de Lucena. Determination of the minimum distance between symbols of the two non-orthogonal M-QAM carriers. In *Brazilian Telecommunication Symposium (SBrT)*, 2013.

- [19] **L. F. O. Chamon** and C. G. Lopes. On parallel-incremental combinations of LMS filters that outperform the Affine Projection Algorithm. In *Brazilian Telecommunication Symposium (SBrT)*, 2013.
- [20] **L. F. O. Chamon** and C. G. Lopes. Transient performance of an incremental combination of LMS filters. In *European Signal Processing Conference (EU-SIPCO)*, pages 7298–7302, 2013.
- [21] R. F. Bittencourt, **L. F. O. Chamon**, S. Futatsugui, J. I. Yanagihara, and S. N. Y. Gerges. Preliminary results on the modeling of aircraft vibroacoustic comfort. In *INTERNOISE*, 2012.
- [22] L. F. O. Chamon, H. F. Ferro, and C. G. Lopes. A data reusage algorithm based on incremental combination of LMS filters. In *Asilomar Conference on Signals, Systems and Computers*, pages 406–410, 2012.
- [23] **L. F. O. Chamon**, W. B. Lopes, and C. G. Lopes. Combination of adaptive filters with coefficients feedback. In *IEEE International Conference in Acoustic, Speech, and Signal Processing (ICASSP)*, pages 3785–3788, 2012.
- [24] **L. F. O. Chamon** and C. G. Lopes. Combination of adaptive filters for relative navigation. In *European Signal Processing Conference (EUSIPCO)*, pages 1771–1775. 2011.
- [25] L. F. O. Chamon, G. S. Quiqueto, S. R. Bistafa, and V. H. Nascimento. An SVD-based MIMO equalizer applied to the auralization of aircraft noise in a cabin simulator. In 18th International Congress on Sound and Vibration (ICSV), 2011.
- [26] G. S. Quiqueto, **L. F. O. Chamon**, and S. R. Bistafa. Preliminary results on the development of an aircraft cabin N&V simulator. In *II SAE Brazil International Noise and Vibration Congress*, 2010.
- [27] **L. F. O. Chamon**, G. S. Quiqueto, and S. R. Bistafa. The application of the Singular Value Decomposition for the decoupling of the vibratory reproduction system of an aircraft cabin simulator. In *II SAE Brazil International Noise and Vibration Congress*, 2010.