

Book Chapters

1. **Shirin Saeedi Bidokhti**, Roy Timo, Michele Wigger, "Rate Distortion Theory for Caching," chapter on *Edge Caching for Mobile Networks*, IET, 2021.

Submitted/In Preparation

1. Berkay Uslu, Samar Elaraby, **Shirin Saeedi Bidokhti**, Alejandro Ribeiro, "Learning Stochastic Wireless Policies via Generative Modeling," in preparation, September 2024
2. X. Zhang, S. Sarkar, **S. Saeedi Bidokhti**, "Sequential Testing for Network Cascade Estimation: When Social Opinions Matter", in preparation, 2024
3. R. Arghal, K. He, **S. Saeedi Bidokhti**, S. Sarkar, "Optimal Signal Precision Investment in Sequential Social Learning," in Preparation, 2024
4. H. Nikpey, S. Sarkar, **S. Saeedi Bidokhti**, "Group Testing with General Correlation," submitted, 2024
5. E. Liu, H. Hassani, **S. Saeedi Bidokhti**, "Approaching Rate-Distortion Limits in Neural Compression with Lattice Transform Coding," submitted, 2024 [\[ArXiv\]](#)
6. X. Chen, N. NaderiAlizadeh, A. Ribeiro, **S. Saeedi Bidokhti**, "Decentralized Learning Strategies for Estimation Error Minimization with Graph Neural Networks," submitted, 2024 [\[ArXiv\]](#)
7. M. Dikshtein, **S. Saeedi Bidokhti**, S. Shamai, "Duality and Bounds on the Capacity of the Diamond Channel with Cooperating Relays," submitted, 2023 [\[ArXiv\]](#)

Journals

- J1. H. Nikpey, J. Kim, X. Chen, S. Sarkar, **S. Saeedi Bidokhti**, "Group Testing with Correlation under Edge-Faulty Graphs," *IEEE Trans. Inf. Theory*, accepted, Sept 2024 [\[ArXiv\]](#)
- J2. R. Arghal, Harvey Rubin, **S. Saeedi Bidokhti**, S. Sarkar, "Protect or prevent? A practicable framework for the dilemmas of COVID-19 vaccine prioritization," *PLOS ONE*, accepted, Sept 2024
- J3. J. Kim, **S. Saeedi Bidokhti**, S. Sarkar, "Capturing COVID-19 Spread and Interplay with Multi-hop Contact Tracing Intervention," *PLOS ONE*, July 2023 [\[PLOS\]](#)
- J4. X. Chen, H. Nikpey, J. Kim, S. Sarkar, **S. Saeedi Bidokhti**, "Containing a spread through sequential learning: to exploit or to explore?", *Transactions on Machine Learning Research (TMLR)*, March 2023 [\[Open Review\]](#)
- J5. E. Lei, H. Hassani, **S. Saeedi Bidokhti**, "Neural Estimation of the Rate-Distortion Function With Applications to Operational Source Coding," *J. Selected Areas in Inf. Theory*, December 2022 [\[IEEE Xplore\]](#)
- J6. J. Kim, X. Chen, H. Nikpey, H. Rubin, **S. Saeedi Bidokhti**, S. Sarkar, "Tracing and testing multiple generations of contacts for COVID-19: cost-benefit tradeoffs," *Journal of the Royal Society Interface*, Oct 2022 [\[RSOS\]](#)
- J7. X. Chen, K. Gatsis, H. Hassani, **S. Saeedi Bidokhti**, "Age of information in random access channels," *IEEE Trans. Inf. Theory*, vol. 68, no. 10, pp. 6548-6568, Oct 2022 [\[IEEE Xplore\]](#) (**IEEE Communications Society & Information Theory Society Joint Paper Award**)
- J8. **S. Saeedi Bidokhti**, M. Wigger, A. Yener, "Benefits of cache assignment on degraded broadcast channels," *IEEE Trans. Inf. Theory*, vol. 65, no. 11, pp. 6999-7019, Jul 2019 [\[IEEE Xplore\]](#)
- J9. C-Y. Wang, **S. Saeedi Bidokhti**, M. Wigger, "Improved converses and gap-results for coded caching", *IEEE Trans. Inf. Theory* Vol. 64, no. 11, pp. 7051-7062, Nov. 2018, Nov 2018 [\[IEEE Xplore\]](#)

- J10. M. Heindelmair, **S. Saeedi Bidokhti**, "Capacity regions of two-user broadcast erasure channels with feedback and memory," *IEEE Trans. Inf. Theory*, vol. 64, no. 7, pp. 5042 - 5069, Jul 2018 [[IEEE Xplore](#)]
- J11. **S. Saeedi Bidokhti**, M. Wigger, R. Timo, "Noisy broadcast networks with receiver caching," *IEEE Trans. Inf. Theory* vol. 64, no. 11, pp. 6996 - 7016, May 2018 [[IEEE Xplore](#)]
- J12. R. Timo, **S. Saeedi Bidokhti**, M. Wigger, B. Geiger, "A rate-distortion approach to caching," *IEEE Trans. Inf. Theory*, vol. 64, no. 3, pp. 1957 - 1976, Mar 2018 [[IEEE Xplore](#)]
- J13. **S. Saeedi Bidokhti**, G. Kramer, S. Shamai, "Capacity bounds on the downlink of symmetric, multi-relay, single receiver C-RAN networks", *Entropy (special issue on Network Information Theory)*, vol. 19(11), no. 610, Nov 2017 [[MDPI](#)] (**Feature Paper**)
- J14. **S. Saeedi Bidokhti**, G. Kramer, "Capacity bounds for diamond networks with an orthogonal broadcast channel," *IEEE Trans. Inf. Theory*, vol. 62(12), pp. 7103 - 7122, Dec 2016 [[IEEE Xplore](#)]
- J15. **S. Saeedi Bidokhti**, V. M. Prabhakaran and S. Diggavi, "Capacity results for multicasting nested message sets over combination networks," *IEEE Trans. Inf. Theory*, vol. 62, no. 9, pp. 4968 - 4992, Sept 2016 [[IEEE Xplore](#)]
- J16. **S. Saeedi Bidokhti**, V. M. Prabhakaran, "Is non-unique decoding necessary?" *IEEE Trans. Inf. Theory*, vol. 60, no. 5, pp. 2594-2610, May 2014 [[IEEE Xplore](#)]

Conferences

- C1. H. Nikpey, S. Sarkar, **S. Saeedi Bidokhti**, "Group Testing with General Correlation Using Hypergraphs," *IEEE Int. Symp. Inf. Theory*, 2024 [[IEEE Xplore](#)]
- C2. E. Liu, Y. Uslu, H. Hassani, **S. Saeedi Bidokhti**, "Text + Sketch: Image Compression at Ultra Low Rates," *ICML Workshop on Neural Compression*, USA, 2023 [[Open Review](#)]
- C3. E. Lei, H. Hassani, **S. Saeedi Bidokhti**, "On a Relation Between the Rate-Distortion Function and Optimal Transport," *Tiny Papers @ICLR*, 2023 [[Open Review](#)]
- C4. E. Lei, H. Hassani, **S. Saeedi Bidokhti**, "Federated Neural Compression Under Heterogeneous Data," *IEEE Int. Symp. Inf. Theory*, Taiwan, 2023 [[IEEE Xplore](#)]
- C5. H. Nikpey, S. Sarkar, **S. Saeedi Bidokhti**, "Compression with Unlabeled Graph Side Information," *IEEE Int. Symp. Inf. Theory*, Taiwan, 2023 [[IEEE Xplore](#)]
- C6. E. Lei, H. Hassani, **S. Saeedi Bidokhti**, "Neural Estimation of the Rate-Distortion Function for Massive Datasets," *IEEE Int. Symp. Inf. Theory*, Finland, 2022 [[IEEE Xplore](#)]
- C7. R. Arghal, **S. Saeedi Bidokhti**, S. Sarkar, "Optimal Capacity-Constrained COVID-19 Vaccination for Heterogeneous Populations," *IEEE Conference on Decision and Control*, Mexico, 2022 [[IEEE Xplore](#)]
- C8. H. Nikpey, J. Kim, X. Chen, S. Sarkar, **S. Saeedi Bidokhti**, "Group Testing With Correlation via Edge-Faulty Graphs," *IEEE Int. Symp. Inf. Theory*, Finland, 2022 [[IEEE Xplore](#)]
- C9. M. Dikshtein, **S. Saeedi Bidokhti**, S. Shamai, "Bounds on the Capacity of the Multiple Access Diamond Channel With Cooperating Base-Stations," *IEEE Int. Symp. Inf. Theory*, Finland, 2022 [[IEEE Xplore](#)]
- C10. R. Arghal, E. Lei, **S. Saeedi Bidokhti**, "Robust Graph Neural Networks via Probabilistic Lipschitz Constraints," accepted in *Conference on Learning for Dynamics and Control (L4DC)*, USA, 2022 [[PMLR](#)]
- C11. E. Liu, H. Hassani, **S. Saeedi Bidokhti**, "Out-of-distribution robustness in deep learning compression," *ICML Workshop on Information-Theoretic Methods for Rigorous, Responsible, and Reliable Machine Learning*, Jul 2021 [[ArXiv](#)]
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- C12. **S. Saeedi Bidokhti**, Aylin Yener, "On the timeliness of arithmetic coding," *IEEE Int. Symp. Inf. Theory*, Australia, 2021 [[IEEE Xplore](#)]
- C13. X. Chen, R. Liu, S. Wang, **S. Saeedi Bidokhti**, "Timely broadcasting in erasure networks: age-rate tradeoffs," *IEEE Int. Symp. Inf. Theory*, Australia, 2021 [[IEEE Xplore](#)]

- C14. X. Chen, X. Liao, **S. Saeedi Bidokhti**, "Real-time sampling and estimation on random access channels: Age of Information and Beyond", *INFOCOM*, 2021 [\[IEEE Xplore\]](#)
- C15. X. Chen, Konstantinos Gatsis, Hamed Hassani, **S. Saeedi Bidokhti**, "Age of information in random access channels", *IEEE Int. Symp. Inf. Theory*, USA, 2020 [\[IEEE Xplore\]](#)
- C16. X. Chen, **S. Saeedi Bidokhti**, "Benefits of coding on age of information in broadcast networks," *IEEE Inf. Theory Workshop*, Sweden, 2019 [\[IEEE Xplore\]](#)
- C17. M. Fereydounian, X. Chen, H. Hassani, **S. Saeedi Bidokhti**, "Non-asymptotic coded slotted ALOHA", *IEEE Int. Symp. Inf. Theory*, France, 2019 [\[IEEE Xplore\]](#)
- C18. K. Tatwawadi, **S. Saeedi Bidokhti**, T. Weissman, "On universal compression with random access," *IEEE Int. Symp. Inf. Theory*, USA, 2018 [\[IEEE Xplore\]](#)
- C19. **S. Saeedi Bidokhti**, M. Wigger, Aylin Yener, A. El Gamal, "State-adaptive caching for symmetric broadcast channels," *Asilomar*, USA, 2017 **(Invited)** [\[IEEE Xplore\]](#)
- C20. A. Lapidath, **S. Saeedi Bidokhti**, M. Wigger, "Dependence balance in multiple access channels with correlated sources," *IEEE Int. Symp. Inf. Theory*, Germany, 2017 [\[IEEE Xplore\]](#)
- C21. **S. Saeedi Bidokhti**, G. Kramer, S. Shamai, "Capacity bounds on the downlink of symmetric multi-relay, single receiver C-RAN networks," *IEEE Int. Symp. Inf. Theory*, Germany, 2017 [\[IEEE Xplore\]](#)
- C22. C-Y Wang, **S. Saeedi Bidokhti**, M. Wigger, "Improved converses and gap-results for coded caching," *IEEE Int. Symp. Inf. Theory*, Germany, 2017 [\[IEEE Xplore\]](#)
- C23. **S. Saeedi Bidokhti**, M. Wigger, A. Yener, "Benefits of cache-assignment on degraded broadcast channels," *IEEE Int. Symp. Inf. Theory*, Germany, 2017 [\[IEEE Xplore\]](#)
- C24. **S. Saeedi Bidokhti**, M. Wigger, A. Yener, "Gaussian broadcast channels with receiver cache assignment," *Int. Conf. Communications*, France, 2017 [\[IEEE Xplore\]](#)
- C25. **S. Saeedi Bidokhti**, M. Wigger, R. Timo, "An upper bound on the capacity-memory tradeoff of degraded broadcast channels," *Int. Symp. Turbo Codes & Iterative Inf. Processing*, France, 2016 [\[IEEE Xplore\]](#)
- C26. **S. Saeedi Bidokhti**, R. Timo, M. Wigger, "Erasure broadcast networks with receiver caching," *IEEE Int. Symp. Inf. Theory*, Spain, 2016
- C27. **S. Saeedi Bidokhti**, G. Kramer, "Capacity of two-relay diamond networks with rate-limited links to the relays and a binary adder multiple access channel," *IEEE Int. Symp. Inf. Theory*, Spain, 2016 [\[IEEE Xplore\]](#)
- C28. R. Timo, **S. Saeedi Bidokhti**, M. Wigger, B. Geiger, "A rate-distortion approach to caching," *Int. Zurich Seminar on Comm.*, Switzerland, 2016 [\[ETH E-collection\]](#)
- C29. M. Heindelmair, **S. Saeedi Bidokhti**, "Capacity regions of two-user broadcast erasure channels with feedback and hidden memory," *IEEE Int. Symp. Inf. Theory*, Hong Kong, 2015 [\[IEEE Xplore\]](#)
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- C31. **S. Saeedi Bidokhti**, G. Kramer, "Capacity bounds for a class of diamond networks," *IEEE Int. Symp. Inf. Theory*, USA, 2014 [\[IEEE Xplore\]](#)
- C32. **S. Saeedi Bidokhti**, G. Kramer, "An application of a wringing lemma to the multiple access channel with cooperative encoders," *Iran Workshop on Comm. and Inf. Theory*, Iran, 2014 [\[IEEE Xplore\]](#)
- C33. **S. Saeedi Bidokhti**, V. M. Prabhakaran and S. Diggavi, "A block Markov encoding scheme for broadcasting nested message sets," *IEEE Int. Symp. Inf. Theory*, Turkey, 2013 [\[IEEE Xplore\]](#)
- C34. **S. Saeedi Bidokhti**, V. M. Prabhakaran and S. Diggavi, "On multicasting nested message sets over combination networks," *IEEE Inf. Theory Workshop*, Switzerland, 2012 [\[IEEE Xplore\]](#)
- C35. M. Gatzianas, **S. Saeedi Bidokhti**, C. Fragouli, "Feedback-based coding algorithms for broadcast erasure channels with degraded message sets," *IEEE Int. Symp. Network Coding*, USA, 2012 [\[IEEE Xplore\]](#)

- C36. **S. Saeedi Bidokhti**, V. M. Prabhakaran, S. Diggavi, "Is non-unique decoding necessary?" *IEEE Int. Symp. Inf. Theory*, USA, 2012 [\[IEEE Xplore\]](#)
- C37. S. Gheorghiu, **S. Saeedi Bidokhti**, C. Fragouli, A. Toledo, "Degraded multicasting with network coding over the combination network," *IEEE Int. Symp. Network Coding*, China, 2011 [\[IEEE Xplore\]](#)
- C38. **S. Saeedi Bidokhti**, C. Fragouli, "Degraded two-message multicast over graphs," *IEEE Int. Symp. Inf. Theory*, Russia, 2011 [\[IEEE Xplore\]](#)
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- C40. M. Felegyhazi, M. Cagalj, **S. Saeedi Bidokhti**, J.-P. Hubaux, "Non-cooperative multi-radio channel allocation in wireless networks," *INFOCOM*, USA, 2007 [\[IEEE Xplore\]](#)