

## Farzan Farnia

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CONTACT INFORMATION	Ho Sin-Hang Engineering Building, Office 918 Shatin, N.T., Hong Kong SAR,	+852-3943-8444 farnia@cse.cuhk.edu.hk
EDUCATION	<b>Stanford University</b> , Stanford, California, USA  Ph.D., Electrical Engineering, <i>Advisor</i> : David Tse 07/2015–06/2019  M.Sc., Electrical Engineering, 07/2013–06/2015 <b>Sharif University of Technology</b> , Tehran, Iran  B.Sc., Electrical Engineering & Mathematics (Double Major) 09/2008–07/2013	
EMPLOYMENT	<b>The Chinese University of Hong Kong</b> , Sha Tin, Hong Kong SAR, China  Assistant Professor, Department of Computer Science & Engineering, 07/2021–present <b>Massachusetts Institute of Technology</b> , Cambridge, Massachusetts, USA  Postdoctoral Research Associate, Laboratory for Information & Decision Systems, 08/2019–06/2021 <b>Stanford University</b> , Stanford, California, USA  Graduate Research Assistant, Information Systems Laboratory, 09/2014–06/2019  Graduate Teaching Assistant, Department of Computer Science, 01/2017–04/2017 & 01/2019–04/2019	
RESEARCH INTERESTS	<i>Machine Learning</i>  <i>Optimization Algorithms</i>  <i>Deep Learning Theory</i>  <i>Information Theory</i>	
HONORS & AWARDS	Awarded the <b>Numerical Technologies Founders Prize</b> , Stanford University  Ranked <b>2<sup>nd</sup></b> in the Electrical Engineering PhD Qualifying Exams, Stanford University  Awarded the <b>Stanford Graduate Fellowship</b> , Stanford University  Ranked <b>1<sup>st</sup></b> out of 200 Electrical Engineering students in class of 2013, Sharif University of Technology  Ranked <b>5<sup>th</sup></b> among more than 400 thousand participants of the Nationwide University Entrance Exam, Iran  <b>Silver medalist</b> in the National Mathematics Olympiad, Young Scholars Club, Iran	03/2014  01/2014  09/2013  07/2013  07/2008  09/2007

## PUBLICATIONS

1. **F. Farnia**, A. Ozdaglar, "Train simultaneously, generalize better: Stability of gradient-based minimax learners", *in the proceedings of International Conference on Machine Learning (ICML)*, July 2021.
2. T. Diamandis\*, Y. Eldar\*, A. Fallah\*, **F. Farnia\***, A. Ozdaglar\*, "A Wasserstein Minimax Framework for Mixed Linear Regression", *in the proceedings of International Conference on Machine Learning (ICML)*, July 2021.
3. **F. Farnia**, A. Aghazadeh, J. Zou, D. Tse, "Group-Structured Adversarial Training", *arXiv preprint arXiv:2106.10324*, 2021.
4. **F. Farnia\***, W. Wang\*, S. Das, A. Jadbabaie, "GAT-GMM: Generative Adversarial Training for Gaussian Mixture Models", *arXiv preprint arXiv:2006.10293*, 2020.
5. A. Reisizadeh\*, **F. Farnia\***, R. Pedarsani, A. Jadbabaie, "Robust Federated Learning: The Case of Affine Distribution Shifts", *in the proceedings of Neural Information Processing Systems (NeurIPS)*, December 2020.
6. **F. Farnia**, A. Ozdaglar, "Do GANs always have Nash equilibria?", *in the proceedings of International Conference on Machine Learning (ICML)*, July 2020.
7. S. Feizi, **F. Farnia**, T. Ginart, D. Tse, "Understanding GANs in the LQG Setting: Formulation, Generalization and Stability", *IEEE Journal on Selected Areas in Information Theory*, July 2020.
8. **F. Farnia**, J. Zhang, D. Tse, "A Fourier-based Approach to Generalization and Optimization in Deep Learning", *IEEE Journal on Selected Areas in Information Theory*, March 2020.
9. **F. Farnia\***, J. Zhang\*, D. Tse, "Generalizable Adversarial Training via Spectral Normalization", *in the proceedings of International Conference on Learning Representations (ICLR)*, May 2019.
10. **F. Farnia**, D. Tse, "A Convex Duality Framework for GANs", *in the proceedings of Neural Information Processing Systems (NeurIPS)*, December 2018.
11. **F. Farnia**, D. Tse, "A Minimax Approach to Supervised Learning", *in the proceedings of Neural Information Processing Systems (NeurIPS)*, December 2016.
12. M. Razaviyayn, **F. Farnia**, D. Tse, "Discrete Rényi Classifiers", *in the proceedings of Neural Information Processing Systems (NeurIPS)*, December 2015.
13. **F. Farnia**, M. Razaviyayn, S. Kannan, D. Tse, "Principle of minimum HGR correlation: from Marginals to Joint Distribution", *in the proceedings of International Symposium of Information Theory (ISIT)*, June 2015.
14. B. Chern, **F. Farnia**, A. Ozgur, "On feedback in Gaussian multi-hop networks", *in IEEE Transactions on Information Theory*, July 2015.
15. Y. Dong, **F. Farnia**, A. Ozgur, "Near Optimal Energy Control and Approximate Capacity of Energy Harvesting Communication", *JSAC Special Issue on Wireless Communications Powered by Energy Harvesting and Wireless Energy Transfer*, Vol. 3, 2014.
16. **F. Farnia**, A. Ozgur, "On feedback in Gaussian multi-hop networks", *in the proceedings of IEEE Information Theory and Applications Workshop (ITA)*, February 2014.
17. **F. Farnia**, S.J. Golestani, "Asymptotic Behavior of Network Capacity under Spatial Network Coding", *in the proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, April 2013, pp. 2434–2439.

\*: Equal contribution