Mohammad Fereydounian

CONTACT
INFORMATION

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My Google Scholar Page Link

EDUCATION

University of Pennsylvania (UPenn), Philadelphia, PA   December 2023

◇ **Ph.D.** from Electrical and Systems Engineering (ESE) Department

Thesis: "Learning, Privacy, and Reliable Communication in Large Data Networks"
Committee: Rakesh Vohra (chair), Hamed Hassani (advisor), Aryan Mokhtari

University of Pennsylvania (UPenn), Philadelphia, PA   December 2021

◇ **M.A.** in Statistics from Wharton School

Sharif University of Technology (SUT), Tehran, Iran   September 2016

◇ **M.Sc.** in Pure Mathematics,

Sharif University of Technology (SUT), Tehran, Iran   September 2014

◇ **B.Sc.** in Electrical Engineering

◇ **B.Sc.** in Pure Mathematics

PAPERS UNDER
PEER-REVIEW
PROCESS

◇ "Robustness Checks in Structural Analysis", (SSRN Link, NBER Link)
Sylvain Catherine (Wharton), Mehran Ebrahimian (SSE),
M.F., David Sraer (UC Berkeley), David Thesmar (MIT)

◇ "What Functions Can Graph Neural Networks Generate?"
M.F., Hamed Hassani (UPenn), Amin Karbasi (Yale)

PUBLICATIONS

◇ "Channel Coding at Low Capacity"
M.F., H. Hassani (UPenn), M. V. Jamali (Samsung), H. Mahdavifar (NEU)
IEEE Information Theory Workshop (ITW), 2019
IEEE Journal on Selected Areas in Information Theory, 2023

◇ "Provably Private Distributed Averaging Consensus: An Information-Theoretic Approach"
M.F., Aryan Mokhtari (UT Austin), Ramtin Pedarsani (UCSB), H. Hassani (UPenn)
IEEE Transactions on Information Theory, 2023

◇ "Low-Complexity Decoding of a Class of Reed-Muller Subcodes for Low-Capacity Channels"
M.F., H. Hassani (UPenn), M. V. Jamali (Samsung), H. Mahdavifar (NEU)
IEEE International Conference on Communications (ICC), 2022

◇ "Non-asymptotic Coded Slotted ALOHA"
M.F., Xingran Chen (UESTC), H. Hassani (UPenn), Shirin Saeedi Bidokhti (UPenn)
IEEE International Symposium on Information Theory (ISIT), 2019

◇ "Hidden Information, Teamwork, and Prediction in Trick-Taking Card Games"
Hadi Elzayn (Meta), Mikhail Hayhoe (Amgen), Harshat Kumar (Quilter), M.F.
The Conference on Reinforcement Learning and Decision Making (RLDM), 2019

TEACHING AWARDS	◇ **Graduate Fellowship for Teaching Excellence**	May 2020
	By The Center for Excellence in Teaching, Learning and Innovation (CETLI) at UPenn	
	◇ **Certificate in College and University Teaching**	December 2019
	By The Center for Excellence in Teaching, Learning and Innovation (CETLI) at UPenn	
	◇ **Best Teaching Assistant Award for a Doctoral Student**	September 2019
	By ESE Department at UPenn	

GUEST LECTURER

◇ Reinforcement Learning (ESE 680-005 at UPenn) — Fall 2019
◇ Statistical Learning (ESE 542 at UPenn) — Spring 2019
◇ Machine Learning (CIS 520 at UPenn) — Spring 2019
◇ Linear Systems Theory (ESE 500 at UPenn) — Fall 2018
◇ Abstract Algebra 3 (Galois Theory at SUT) — Fall 2013

TEACHING ASSISTANT

◇ Linear Systems Theory (ESE 500 at UPenn) — Fall 2018
◇ Engineering Mathematics (at SUT) — Spring 2015
◇ Numerical Computing (at SUT) — Spring 2015
◇ General Math 2 (at SUT) — Spring 2015
◇ WLAN Tx. Physical Layer Design Lab (at SUT) — Fall 2014
◇ Numerical Computing (at SUT) — Fall 2014
◇ General Math 1 (at SUT) — Fall 2014
◇ General Math 1 (for Chemistry students at SUT) — Fall 2014
◇ Signals and Systems (at SUT) — Spring 2014
◇ General Math 1 (at SUT) — Fall 2013
◇ Abstract Algebra 1 (Group Theory at SUT) — Fall 2013
◇ Abstract Algebra 3 (Galois Theory at SUT) — Fall 2013

INVITED AS A REVIEWER

◇ **Journals**: IEEE Transactions on Communications; IEEE Transactions on Wireless Communications; IEEE Transactions on Signal Processing; IEEE Communication Letters

◇ **Conferences**: NeurIPS 2021, 2022; AISTATS 2020, 2023, 2025; ICML 2020; ICLR 2021, 2021, 2023, 2024; IJCAI-PRICAI 2020; L4DC 2020; IEEE ISIT 2021, 2022; IEEE ITW 2022

MATHEMATICAL AREAS I HAVE STUDIED AT ADVANCED LEVEL

◇ Graph Theory
◇ Number Theory
◇ Combinatorics
◇ Topology
◇ Abstract Algebra: Group, Ring, Field, Module, and Galois Theory
◇ Operator Theory and Linear Algebra
◇ Probability and Measure Theory
◇ Manifolds and Differential Geometry
◇ Fourier, Complex, Mathematical, and Functional Analysis
◇ Ordinary and Partial Differential Equations
◇ Logic, Set Theory, and Foundations of Mathematics
◇ Mathematical Statistics and Statistical Inference
◇ Mathematical Optimization
◇ Information and Coding Theory