Arman Adibi

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Research Interests

- Reinforcement Learning
- Minimax Optimization
- Diffusion Models
- Federated Learning
- Decision Making Under Uncertainty
- Information Theory
- Robust Machine Learning
- Change Detection in Time Series

Experience

Computer Science Department, Augusta University
Assistant Professor (Tenure Track) *Aug2025-Now*

Department of ECE, Princeton University
Postdoctoral Research Associate *Sep2023-July2025*
- Advisor: Prof. H. V. Poor and Prof. S. Kulkarni
- Working on Multi-agent Reinforcement Learning
- Working on Quickest Change Detection for Unnormalized Statistical Models

Department of ESE, University of Pennsylvania
Research Assistant *Sep2018-Aug2023*
- Advisor: Dr. Hamed Hassani
- Multiple projects on Robust Learning, Distributed Learning, and Reinforcement Learning

Education

2023-2025: **Princeton University**
Postdoctoral Researcher
Advisor: Prof. H. Vincent Poor and Prof. Sanjeev Kulkarni

2018–2023: **University of Pennsylvania**
Ph.D. Electrical & Systems Engineering, Advisor: Prof. Hamed Hassani
Thesis: Discrete and Continuous Optimization for Collaborative and Multi-task Learning
Thesis Committee: Prof. Sanjay Shakkottai, Prof. George J. Pappas, and Prof. Amin Karbasi

2013–2018: **Isfahan University of Technology**
B.Sc. Electrical Engineering (Telecommunications System with a minor in mathematics)

Honors &Awards

2018: Lilian Beck Fellowship & The Dean's Fellowship from the University of Pennsylvania

2017: Third Prize in **International Mathematics Competition (IMC)** for University Students

Selected Presentations

- Stochastic Approximation with Delayed Updates, 2024 INFORMS Annual Meeting.
- Delay in Reinforcement Learning, Princeton Machine Learning Theory Summer School, 2024.

- Discrete and Continuous Optimization for Collaborative and Multi-task Learning, Rutger Business School, 2024.
- Discrete Optimization in Machine Learning, CMU Machine Learning Department, 2023.
- Collaborative Linear Bandits with Adversarial Agents: Near-Optimal Regret Bounds, NeurIPS, 2022.
- Minimax Optimization: The Case of Convex-Submodular, **oral presentation** in AISTATS 2022.
- Minimax Optimization: The Case of Convex-Submodular, **spotlight** in "Subset Selection in Machine Learning" Workshop, ICML 2021.
- Submodular Meta-Learning, NeurIPS, 2020.

Publications

- (Hypothesis Testing, Quickest Change Detection) Adibi, A., Kulkarni, S., Poor, H. V., Banerjee T., & Tarokh, V. **" Asymptotically Optimal Change Detection for Unnormalized Pre- and Post-Change Distributions "** submitted to **International Conference on Artificial Intelligence and Statistics (AISTATS), 2025**.
- (Reinforcement Learning, Federated Learnig) Adibi, A., Dal Fabbro, N., Schenato, L., Kulkarni, S., Poor, H. V., Pappas, G. J., Hassani, H., & Mitra, A. **" Stochastic Approximation with Delayed Updates: Finite-Time Rates under Markovian Sampling " International Conference on Artificial Intelligence and Statistics (AISTATS), 2024**.
- (Reinforcement Learning, Federated Learnig) Adibi, A., Dal Fabbro, N., Kulkarni, S., Poor, H. V., Pappas, G. J., & Mitra, A. **"DASA: Delay-Adaptive Multi-Agent Stochastic Approximation " IEEE Conference on Decision and Control (CDC), 2024**.
- (Reinforcement Learning, Federated Learnig) Dal Fabbro, N., Adibi, A., Mitra, A., & Pappas,G. J., **" Finite-Time Analysis of Asynchronous Multi-Agent TD Learning " American Control Conference (ACC), 2024**.
- (Deep Learning, Adversarial Robustness) Lei, E., Adibi, A., & Hassani, H., **" Score-Based Methods for Discrete Optimization in Deep Learning "** Submitted to **IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2024**.
- (Minimax Optimization, Distributed Learning) Adibi, A., Mitra, A., & Hassani, H., **" Min-Max Optimization under Delays " American Control Conference (ACC), 2024**.
- (Decision Making under Uncertainty, Federated Learnig) Adibi, A., Mitra, A., Pappas, G. J., & Hassani, H., **" Collaborative Linear Bandits with Adversarial Agents: Near-Optimal Regret Bounds " Advances in Neural Information Processing Systems(NeurIPS), 2022**.
- (Adversarial Robustness, Distributed Learning) Adibi, A., Mitra, A., Pappas, G. J., & Hassani, H., **" Distributed Statistical Min-Max Learning in the Presence of Byzantine Agents " IEEE Conference on Decision and Control (CDC), 2022**.
- (Adversarial Robustness, Submodular Optimization) Adibi, A., Mokhtari, A., & Hassani, H., **" Minimax Optimization: The Case of Convex-Submodular" International Conference on Artificial Intelligence and Statistics (AISTATS), 2022** .
Spotlight in "Subset Selection in Machine Learning" Workshop, ICML 2021 .
***Oral presentation** in AISTATS 2022 (top 2% of submitted papers).*
- (Distributed Learning, Submodular Optimization) Robey, A., Adibi, A., Schlotfeldt, B., Hassani, H., & Pappas, G. J.,**" Optimal Algorithms for Submodular Maximization with Distributed Constraints" Learning for Dynamics and Control (L4DC), 2021** .
- (Distributed Learning, Submodular Optimization) Adibi, A., Mokhtari, A., & Hassani, H., **" Submodular Meta-Learning " Advances in Neural Information Processing Systems(NeurIPS),**

2020.
- (Non-convex Optimization, Minimax Optimization) Naghsh, M. M., Masjedi, M., Adibi, A., & Stoica, P., **" Max-Min Fairness Design in MIMO Interference Channels: A Minorization-Maximization Approach" IEEE Transactions on Signal Processing (TSP), 2019**.

Professional Activities

-Services:

- Program Chair at Neural Information Processing System (NeurIPS) MusIML Workshop, 2024
- Session Chair at Annual Conference on Information Sciences and Systems (CISS), 2024

-Memberships:

- INFORMS Student Member

-Reviewer for:

- International Conference on Machine Learning(ICML)

Top reviewer for ICML 2021, and 2022.

- International Conference on Learning Representations (ICLR)

Top reviewer for ICLR 2022 and 2023.

- Conference on Neural Information Processing Systems (NeurIPS)

Top reviewer for Neurips 2021.

- International Conference on Artificial Intelligence and Statistics (AISTATS)

Top reviewer for AISTATS 2022, 2023, and 2024.

- IEEE International Symposium on Information Theory (ISIT)
- IEEE Transactions on Automatic Control Journal (TAC)
- IEEE Conference on Decision and Control (CDC)
- Learning for Dynamics and Control (L4DC)
- IEEE American Control Conference (ACC)

Teaching and Assistantships

Department of ESE, University of Pennsylvania — **Linear System Theory**
Teaching Assistant, Dr. George J. Pappas — *2020*

Department of ESE, University of Pennsylvania — **Probability Theory**
Teaching Assistant, Dr. Santosh S. Venkatesh — *2019*

Math Department, Isfahan University of Technology — **Applied Linear Algebra**
Teaching Assistant, Dr. Javadi — *2017*

Math Department, Isfahan University of Technology — **Foundations Of Mathematics**
Teaching Assistant, Dr. Bahrami — *2017*

Math Department, Isfahan University of Technology — **Mathematical Analysis**
Teaching Assistant, Dr. Gazor — *2016*

ECE Department, Isfahan University of Technology — **Signals and Systems**
Teaching Assistant, Dr. Khosravifard — *2015*

Skills

Programming: C++/C, python, TensorFlow, Pytorch, Matlab, Verilog
Typesetting: LaTeX, Microsoft Office
Soft Skills: Problem-solving, Communication Skills, Conflict Resolution, Project Management