Mohammadreza **Teymoorianfard**

Manning College of Information and Computer Sciences, University of Massachusetts, Amherst, MA, USA

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Education

University of Massachusetts Amherst   *Massachusetts, USA*

MSc/PhD in Computer Science   *Sep 2023 - present*

- GPA: 3.918/4

University of Tehran   *Tehran, Iran*

BSc in Electrical Engineering   *Sep 2018 - Jun 2023*

- GPA: 19.06/20 (4/4)
- Ranked **3rd** among 120 Electrical Engineering students

University of Tehran   *Tehran, Iran*

Minor in Computer Engineering   *Sep 2019 - Jun 2023*

- GPA: 17.05/20

Research Interests

- Privacy and Security in Generative AI Models

- Watermarking and Model Attribution for Multi-modal Systems

- Adversarial Robustness in Neural Networks

Publications

Amini, S., **Teymoorianfard, M.**, Ma, S. and Houmansadr, A., 2024. MeanSparse: Post-Training Robustness Enhancement Through Mean-Centered Feature Sparsification. arXiv preprint arXiv:2406.05927.

Research Experience

Umass Amherst - The Secure, Private Internet (SPIN) Research Group   *Amherst, MA*

Advisors: Amir Houmansadr, Shiqing Ma   *Sep. 2023 - Present*

- Working on Watermarking and Model Attribution of Multi-modal Systems
- Working on Adversarial Robustness of Neural Networks

University of Tehran - Smart Networks Lab   *Tehran, Iran*

Advisor: Hamed Kebriaei   *Jun. 2022 - Jun. 2023*

- Thesis: Learning-Based Model Predictive Control (MPC) for Autonomous Taxi Navigation with Obstacle Avoidance.

University of Tehran   *Tehran, Iran*

Advisor: Reshad Hosseini   *Jun. 2021 - Sep. 2021*

- Developed a text detection system for card images using advanced image processing techniques.

Skills

Programming Languages:

◇ Proficient: Python, C/C++, Matlab

◇ Familiar: LaTeX, ARM (STM32), Verilog

Simulators, Software, and Frameworks:

◇ Familiar: Simulink, CARLA, SolidWorks, AutoCAD, CoppeliaSim, Proteus

Python Libraries:

◇ Proficient: PyTorch, Transformers, OpenCV, scikit-learn, NumPy, Pandas, Matplotlib

◇ Familiar: TensorFlow, Keras, RL-Glue, pulp, mip

Honors & Awards

2023	**Recipient of an industry-sponsored award for outstanding bachelor's thesis work**
2020	**Awarded the University of Tehran Sponsors Foundation Honorable Award for Academic Excellence**
2020	**Recipient of the Faculty of Engineering (FOE) Award for achieving 2nd rank in the 2019-2020 academic year**
2018	**Ranked in the top 0.4% of over 150,000 students in the Iranian National University Entrance Exam**
2011	**Admitted to National Organization for Exceptional Talents (NODET) for middle and high school**

Teaching Experience

Fall 2024	**CICS 160: Object-Oriented Programming,** TA	*Umass Amherst*
Summer 2024	**COMPSCI 589: Machine Learning,** TA	*Umass Amherst*
Spring 2024	**COMPSCI 119: Intro to Programming,** TA	*Umass Amherst*
Fall 2022	**Intelligent Systems,** TA	*University of Tehran*
Spring 2022	**Mechatronics,** TA	*University of Tehran*
Spring 2022	**Signal and Systems** TA	*University of Tehran*
Fall 2021	**Engineering Probability and Statistics,** TA	*University of Tehran*
Spring 2021	**Electronics1,** Head TA	*University of Tehran*

Relevant Courses

University of Massachusetts Amherst

- COMPSCI611: Advanced Algorithms
- COMPSCI685: Adv Natural Language Processing
- COMPSCI682: Neural Networks, Modern Intro
- COMPSCI660: Advanced Information Assurance

Coursera

- Motion Planning for Self-Driving Cars
- Introduction to Self-Driving Cars
- A Complete Reinforcement Learning System (Capstone)
- Fundamentals of Reinforcement Learning

University of Tehran

- Deep Learning
- Reinforcement Learning
- Machine Learning
- Artificial Intelligence
- Mechatronics
- Linear Algebra
- Engineering Probability and Statistics
- Operational Research
- Modern Control Systems

Language

◇ ENGLISH: Advanced Proficiency

◇ PERSIAN: Native