

MILIN ZHANG

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Education

Northeastern University

Ph.D. in Computer Engineering

Advisor: Prof. Francesco Restuccia

Boston, MA

Apr, 2026

Syracuse University

M.Sci in Electrical Engineering

Syracuse, NY

Dec 2021

University of Electronic Science and Technology of China

B.Eng in Electronic Engineering

Sichuan, China

Jun 2018

Skills

Domain Expertise: Deep Learning, Statistical Learning, Wireless Communication, Software-Defined Radio, Digital Signal Processing, Convex Optimization, Information Theory

Coding: Python, C/C++, Matlab

Language: Chinese (Mandarin, Cantonese), English (TOEFL 108/120), Japanese (JLPT N1)

Publications

Journal

(*) denotes equal contribution

- Sayyed Sazzad, Shahriar Rifat, **Milin Zhang**, Ananthram Swami, Michael De Lucia, Nathaniel D. Bastian, and Francesco Restuccia, “Out-of-Distribution Detection in Computer Vision: A Comprehensive Survey and Research Challenges.” *ACM Computing Surveys* (2026).
- Ildi Alla, **Milin Zhang**, Jonathan Ashdown, Valeria Loscri and Francesco Restuccia, “Finding a Needle in a (Spectrum) Haystack: Passwordless Wireless Authentication Through Multi-Band Multi-Device Radio Fingerprinting.” *Computer Networks* (2026): 112148.
- Khandaker Foysal Haque, **Milin Zhang**, Francesca Meneghello, and Francesco Restuccia, “Si-FI: Learning the Beamforming Feedback for Simultaneous Multi-Subject Sensing.” *Computer Networks* (2025): 111907.
- Khandaker Foysal Haque, **Milin Zhang**, Francesca Meneghello, and Francesco Restuccia, “BeamSense: Rethinking Wireless Sensing with MU-MIMO Wi-Fi Beamforming Feedback.” in *Computer Networks* (2025): 111020.
- **Milin Zhang***, Mohammad Abdi*, Venkat R. Dasari and Francesco Restuccia, “Semantic Edge Computing and Semantic Communications in 6G Networks: A Unifying Survey and Research Challenges.” in *Computer Networks* (2025): 111531.
- **Milin Zhang**, Mohammad Abdi, Jonathan Ashdown, and Francesco Restuccia, “Adversarial Attacks to Latent Representations of Distributed Neural Networks in Split Computing.” *Computer Networks* (2025): 111755.
- Junyi Yang, Thomas Gourousis, Mengting Yan, Ruyi Ding, Ankit Mittal, **Milin Zhang**, Francesco Restuccia, Aatmesh Shrivastava, Yunsi Fei, and Marvin Onabajo, “A Low-Power Differential Temperature Sensor with Chopped Cascode Transistors and Switched-Capacitor Integration.” in *Electronics* 14.12 (2025): 2381.

- Ankit Mittal, **Milin Zhang**, Thomas Gourousis, Ziyue Zhang, Yungsi Fei, Marvin Onabajo, Francesco Restuccia, and Aatmesh Shrivastava, “Sub-6 GHz Energy Detection-based Fast On-Chip Analog Spectrum Sensing with Learning-driven Signal Classification.” in *IEEE Internet of Things Journal* 11.14 (2024): 25033-25046.

Conference

- **Milin Zhang**, Michael De Lucia, Jonathan Ashdown, Nathaniel D. Bastian, Ananthram Swami, and Francesco Restuccia, “NI-Diff: Zero-Day and Adversarial Network Intrusion Detection with Diffusion Models.” in *Proc. of IEEE Military Communications Conference (MILCOM)*, 2025
- **Milin Zhang**, Michael De Lucia, Ananthram Swami, Jonathan Ashdown, Kurt Turck and Francesco Restuccia, “HyperAdv: Dynamic Defense Against Adversarial Radio Frequency Machine Learning Systems.” in *Proc. of IEEE Military Communications Conference (MILCOM)*, 2024
- **Milin Zhang**, Mohammad Abdi, Shahriar Rifat, and Francesco Restuccia, “Resilience of Entropy Model in Distributed Neural Networks.” in *Proc. of the 18th European Conference on Computer Vision (ECCV)*, 2024.
- Daniel Uvaydov*, **Milin Zhang***, Clifton Paul Robinson, Salvatore D’Oro, Tommaso Melodia and Francesco Restuccia, “Stitching the Spectrum: Semantic Spectrum Segmentation with Wideband Signal Stitching.” in *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2024.
- Khandaker Foysal Haque, **Milin Zhang**, Francesco Restuccia, “SiMWiSense: Simultaneous Multi-Subject Activity Classification Through Wi-Fi Signals.” in *Proc. of the IEEE 24th International Symposium on World of Wireless, Mobile and Multimedia Networks (WoWMoM)*, 2023.
- Thomas Gourousis, Ziyue Zhang, Mengting Yan, **Milin Zhang**, Ankit Mittal, Aatmesh Shrivastava, Francesco Restuccia, Yungsi Fei, and Marvin Onabajo, “Identification of Stealthy Hardware Trojans through On-Chip Temperature Sensing and an Autoencoder-Based Machine Learning Algorithm.” in *Proc. of the IEEE 66th International Midwest Symposium on Circuits and Systems (MWSCAS)*, 2023.

Patents

- Francesco Restuccia, **Milin Zhang**, Jonathan Ashdown, and Kurt Turck, “Dynamic Adversarial Defense for RF Signal Classification.” U.S. Patent Application 19/373,485, published April 30, 2026.
- Francesco Restuccia, Khandaker Foysal Haque, and **Milin Zhang**, “Method and apparatus for wi-fi sensing through mu-mimo beamforming feedback learning.” U.S. Patent Application 19/101,116, published February 12, 2026.
- Daniel Uvaydov, **Milin Zhang**, Salvatore D’Oro, Tommaso Melodia, Francesco Restuccia, and Clifton Paul Robinson, “Methods for Real-Time Wideband RF Waveform and Emission Classification.” U.S. Patent Application 18/620,310, published October 3, 2024.
- Francesco Restuccia, Khandaker Foysal Haque, and **Milin Zhang**, “Simultaneous Multi-Subject Activity Classification Through Wi-Fi Signals.” U.S. Patent Application 18/489,570, published June 6, 2024.

Service

Reviewer

- Journals: IEEE J-STSP, TCOM, TCCN, TWC, TMC, TDSC, and Elsevier COMNET.
- Conferences: ICC, GLOBCOM, SECON, WoWMoM, MILCOM, AAAI, ECCV

Teaching Assistant

- EECE 5643-Simulation and Performance Evaluation, Spring 2026