

AMIRREZA TAHERINIA

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EDUCATION

K. N. Toosi University of Technology

Sep. 2021 - Sep. 2024

M.Sc. in Electrical Engineering

Major in **Control Systems**

Overall GPA: 3.4/4 (15.8/20)

Islamic Azad University, South Tehran Branch

Sep. 2019 - Sep. 2021

B.Sc. in Electrical Engineering

Major in **Power Systems**

Overall GPA: 3.58/4 (16.48/20)

Shamsi Pour University

Sep. 2016 - Sep. 2018

Associate Degree in Electrical Engineering

Overall GPA: 3.52/4 (16.30/20)

EXPERIENCE

Research Experience

- Research Assistant at Analytical System Control Lab (ASC Lab) at K. N. Toosi University of Technology, Sep. 2022 - Sep. 2024.
- Research Assistant at the Center of Research and Technology (CReaTech) at K. N. Toosi University of Technology, Sep. 2021 - Sep. 2022.
- Research Assistant at Power Systems Stability Laboratory (PSS Lab) at K. N. Toosi University of Technology, Sep. 2022 - Sep. 2024.

Teaching Assistant Experience

- **Linear Algebra** (Fall) (Sep. 2023 - Feb. 2024)
Under Supervision of Dr. M. Tavakoli Kakhki
- **Electrical Circuits I** (Winter) (Feb. 2024 - Jul. 2024)
Under Supervision of Dr. T. Amraee

PUBLICATIONS

1. **Taherinia, Amirreza**, Mahsan Tavakoli Kakhki, and Turaj Amraee, "Enhancing the Performance of Cyber-Attack Detection and Localization in Smart Grids Using Deep Transfer Learning," The 14th International Smart Grids Conference (Smart Grids for the Sustainable Development and Environment) (2024).

2- **Taherinia, Amirreza**, Mahsan Tavakoli Kakhki and Turaj Amraee, "Improving Cyber-Attack Detection and Localization in Smart Grids Using Deep Transfer Learning with Autoencoder Approaches," under preparation in 29th International Electrical Power Distribution Conference (EPDC) (2025).

3- **Taherinia, Amirreza**, Mahsan Tavakoli Kakhki and Turaj Amraee, "Detection and Localization of Cyber Attacks in Smart Power Grids Using Kolmogorov-Arnold Networks," under preparation, (2025)

4- **Taherinia, Amirreza**, Mahsan Tavakoli Kakhki and Turaj Amraee, "Detection and Localization of Cyber Attacks in Smart Power Grids Using Convolutional Kolmogorov-Arnold Networks," under preparation, (2025) .

RESEARCH INTERESTS

- Cyber Attack in Smart Grids;
- Fault Detection and Localization;
- Power System Optimization and State Estimation;
- Machine Learning and Deep Learning;
- Image Processing

SELECTED COURSES

- Signal and Systems, Grade: 19.5 / 20, Undergraduate course, Fall 2020
- Linear Control, Grade: 18.5 / 20, Undergraduate course, Fall 2020
- Programming, Grade: 19.5 / 20, Undergraduate course, Fall 2019
- Fault Detection, Grade: 17.25/20, Graduate course, Winter 2022

TECHNICAL STRENGTHS

Scientific Programming	<i>Python, MATLAB (M-file), C++</i>
Engineering	<i>MATLAB (Simulink), AutoCAD</i>
Artificial Intelligence	<i>Machine Learning, Optimization, Reinforcement Learning, Fault Detection</i>
Typesetting System	<i>L^AT_EX</i>

LANGUAGE PROFICIENCY

- Full Proficiency in *English*
- Native in *Persian*

CERTIFICATES

1. Certificate of Completion of Deep Learning A-Z: Neural Networks, AI on Udemy, 2023.
2. Certificate of Completion of Machine Learning A-Z on Udemy, 2023.
3. Certificate of Completion of The complete Python Bootcamp From Zero to Hero in Python on Udemy.

4. Certificate of Completion of Programming for Everybody (Getting Started with Python) on Coursera (University of Michigan's Course).
5. Certificate of Completion of complete Linear Algebra: Theory and Implementation in code on Udemy.

WORK EXPERIENCE AND PROJECTS

- **Anomaly Detection and Localization**

Detection and Localization Anomalies in Images and Time Series datasets with using PyTorch and Tensorflow and libraries like as: Keras, numpy, pandas, Matplotlib and OpenCV.

- **Cyber Attack Detection and Localization**

Detection and Localization Anomalies in Cyber attacks scenarios in Mississippi dataset(Numerical Dataset) with using MLP, CNN(One Dimensional LeNet and ResNet), Auto-Encoders, Kolmogorov-Arnold Networks(KAN), Convolutional Kolmogorov-Arnold Networks(CKAN) and Transfer Learning.

- **Image Processing**

Image Classification (MNIST and CIFAR10 datasets) with using deep learning methods and meta learning methods.

REFERENCES

- Dr. Mahsan Tavakoli Kakhki, Ph.D.
Associate Professor, Faculty of Electrical Engineering,
K. N. Toosi University of Technology, Tehran, Iran,
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- Dr. Turaj Amraee, Ph.D.
Associate Professor, Faculty of Electrical Engineering,
K. N. Toosi University of Technology, Tehran, Iran,
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- Dr. Mahdi Aliyari-Shoorehdeli, Ph.D.
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