# Abbas Nosrat

MSc Student · Control Engineering

*School of Electrical and Computer Engineering, University College of Engineering, University of Tehran, North Kargar st., Tehran, Iran.*

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## Education

**University of Tehran** *Tehran - Iran*

MSc Control Engineering *2020 - present*

- Advisors: Dr. Ahmad Kalhor, Dr. Babak N Araabi
- Thesis: Meta System Identification

**Imam Khomeini International University** *Qazvin-iran*

BS Electrical Engineering *2015 - 2020*

- Advisor: Dr. Hasan Zarabadipour

## Research Interests

- Multi-Task Learning
- Self-Supervised Learning
- Meta-Learning
- Multi-Modal Learning

## Professional Experience

2023-Present **Business Analyst**, Ronak Pharmaceutical Co

2023-Present **Reviewer**, International Journal of Industrial Electronics Control and Optimization

2021-Present **Research Assistant**, Ronak Pharmaceutical Co

2021-Present **Graduate Teaching Assistant**, Electrical and Computer Engineering Department, University of Tehran

## Publications

### Published

TFNet: Few-Shot Identification of LTI Systems Based on Convolutional Neural Networks

## Honors and Awards

2020 **24th rank**, Iran's National University Entrance for Control Engineering Masters Degree

## Teaching Experience

| | |
|---|---|
| Spring 2022 | **Trustworthy AI**, Teaching Assistant |
| Fall 2022 | **Machine Learning**, Teaching Assistant |
| Fall 2022 | **Analisys and Design of Neural Networks**, Teaching Assistant |
| Fall 2022 | **Linear Control Systems Lab**, Teaching Assistant |
| Spring 2022 | **System Identification**, Teaching Assistant |

## Projects

*Completed*

### TFNet

This is my main master's project in which I developed a method for parametric and structural identification of industrial systems from a non-persistent excitation and a handful of I/O data.

*Ongoing*

### TFNet 2

This project is an improvement on TFNet. In this project, I am utilizing multi-task learning methods to combine the classifier and the parameter estimator to improve TFNet's accuracy and scalability.

### Coursework projects

- Implementation of UNet
- Implementation of CycleGan and VQVAE
- Implementation of rotation prediction method
- Adversarial attacks and explainability
- Few-shot classification and person reidentification using contrastive learning
- Implementation of UNet

## Technical Background

### Programming Languages

**Python, Matlab, Bash, Julia, R**,

### Machine Learning Frameworks

**Scikit-learn, Pytorch, Tensorflow, Flux.jl**,

### Development Tools

**Git, Figma, Jira**,

### Writing Tools

**LaTeX, Lyx**,

## Personal Interests

- Guitar playing, singing and making music.
- Playing video games.
- Watching Movies and anime.
- Reading comics and manga.
- Reading about AI, computer hardware, and Linux topics.