Mohamad Reza Sadeghi

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Education

Iran University of Science and Technology (IUST) *Tehran, Iran*
BSc in Mechanical Engineering *Since 2017*

- Thesis: Fault Detection of Bearings Using EMD & Deep Learning (FLANN)
- 3rd rank, score: 18.6 out of 20
- Relevant Coursework: Mechatronics, Automatic Control, Measurement Systems, CM & NDT

Salam Highschool *Tehran, Iran*
Diploma of Math & Physics *2016-2017*

- In the best one percent of applicant
- Score: 19 out of 20
- Acceptance in Physics (1st stage) and Astrophysics (1st stage)

Other Relevant Extracurricular Courses *Tehran, Iran*

- Bayesian Signal and Image Processing (ISAV)
- Deep Learning Summer School (Kharazmy University)
- Bayesian statistics (Coursera)
- NDT Workshop (Tehran University)
- General Engineering Acoustics (ISAV)
- Other: Advanced SolidWorks, MATLAB, COMSOL & Abaqus

Academic Experiences

National Iranian Gas Transmission Company (NIGTC) *Tehran, Iran*
Research Assistant (Part time) *Since 2019*

- Data analysis, turbine flow meters health monitoring
- Designing a smart alarm system for TBS/DRS stations
- Diagnosis of flow meters using artificial intelligence (AI)

Iran University of Science and Technology (IUST) *Tehran, Iran*
Tutor & Teacher Assistant (Part time) *Since 2018*

- Vector dynamics (TA), Dr. Rajabi (2021)
- Mechanical vibration (TA), Dr. Rajabi (2020)
- MATLAB Courses – Held two beginner course and one advanced course
- Tutored students to build a smart greenhouse (2019)
- Guided student to design & build a smart alarm for apartments (2021)
- Machine Dynamics & Vibration Lab Assistant

Professional Experiences

Lambert Mech (Personal Projects) *Tehran, Iran*
R&D Engineer and Designer *Since 2017*

- Monitor and control PMDC motor (for Ava Polymer company)
- Design & build yarn winder machine prototype (Arduino)
- Prediction flow parameters using AI (LSTM & ConvLSTM)
- Analyzing anthropometric data using AI
- Design & optimize a composite gear for helicopter power transmission
- Write a visualization package for Heisler Charts (Uploaded on Pypi & Github)
- Build & design a drawing machine
- Build, Design & Optimize a bridge prototype using Genetic Algorithm & SFLA

ISENSE Company *Tehran, Iran*
Mechanical Designer *Since Aug 2021*

- Vibration Analysis
- Metal Encloser Design

IPC Company *Tehran, Iran*
Part-time Mechanical Designer *Summer 2020*

- Laser cut design for PMMA (Plexiglass) panels
- Sheet metal designing for industrial power switching supplier

Nabz Group *Tehran, Iran*
R&D Intern *Summer 2019*

- Conduct research about Blood Pressure Measurement Devices
- Acoustic analysis of a stethoscope (Abaqus)
- Build & design a small acoustic chamber

Nilper Company *Tehran, Iran*
Design Intern *Summer 2018*

- Learning manufacturing processes
- Design furniture models (Solidworks)

Publications

Published Articles:

- H. S. Naeini, Z. Kaviani, **M. R. Sadeghi**, In Preventing Occupational Traumas Throughout Ergonomic Design & Modifying Farmer's Posture in Walnut Gardens, J of Archives of Trauma Research (2020) [My contribution: designing and optimizing the target tool]

Under Publication Articles:

- M. Rajabi, Y. Kaardan, **M. R. Sadeghi** (2021), Deep Convolutional Neural Network for Remaining Useful Life for, PHM Challenge.

- M. Rajabi, **M. R. Sadeghi** (2021), Fault Diagnosis Using Functional Ling Artificial Neural Network (FLANN) for Turbine Flow Meters.
- M. Rajabi, **M. R. Sadeghi** (2021), Flow Condition Monitoring, Case Study: Safety Vent of TBS/DRS Stations.

Skills & Interests

Research Interests: Cyber physical systems, Condition Monitoring, Machine Learning and Mechatronics
Language: English (IELTS 6.5) – Persian (Native)
Computer: MATLAB & Simulink, Python, Abaqus, SolidWorks, C++ and Arduino
Other Skills: Soldering, Sheetmetal
Hobbies: Mountaineering and Swimming