ALIREZA SHOOSHTARI

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RESEARCH INTERESTS

High Voltage, Condition Monitoring, Smart grids, Microgrids, Artificial Intelligence (AI) Learning Algorithms, Machine Learning (ML), Data and Analytics, Optimization

EDUCATION

M.Sc. in Power Systems | GPA:17.48/20   **2019-2022**

University of Tehran, Tehran, Iran

Thesis: Power Transformer Health Index Modeling Based on Intelligent Methods.

Thesis description: This thesis introduces an AI-driven approach, combining diverse machine learning algorithms, to accurately derive Transformer health index and Furan content, achieving a remarkable 98% precision.

B.Sc. in Electrical Engineering | GPA:17.16/20   **2014-2019**

Bu-Ali Sina Univeristy, Hamedan, Iran

Thesis: Optimizing Microgrids for Cost Reduction: An Investigation of Production Costs

Thesis description: This thesis explores optimization methods for microgrids, considering both production costs and maximum utilization.

PUBLICATION

MA Faraji, A Shooshtari, A El-Hag, **"Stacked Ensemble Regression Model for Prediction of Furan",** In Energies 2023

SKILLS

Technical

- **Deep Learning**: Supervised Learning, Timeseries Prediction, Image Classification, Natural Language Processing, Signal Denoising, Image Denoising, Image Segmentation, Face Detection
- **Machine Learning**: Supervised Learning, Unsupervised Learning, Timeseries Prediction
- **Django Developer:** eCommerce Web Development, RESTful API, Algorithm, Database Programming
- **Business Intelligence:** Data Analyzing, Build Visual Reports

Tools

- **Python**: PyTorch, TensorFlow, Scikit Learn, Numpy, OpenCV, Django
- **MATLAB**: Programming, Simulink
- **Microsoft Power BI**
- **MySQL**

Soft Skills

- **Teamwork**
- **Time Management**
- **Creativity**
- **Leadership**

PROJECTS

- Distribution Network (Islanded Microgrid) Restoration Including Optimal Voltage Regulation for Two Networks With 33 and 87 Buses
- Conducting Load Flow Analysis and Short Circuit Calculations for a Microgrid Operating at Medium Voltage
- Transient Analysis of Switching events in an Overhead Line at a 400 kV Substation
- Modelling and Analysis of Field and Potential Distribution in High Voltage Transformer Bushings
- Designing Power and Control Circuits for an Inverter and Rectifier Used in a Wind Turbine System

ONLINE COURSES & CERTIFICATE

Coursera: Introduction to Tensorflow for Artificial Intelligence, Machine Learning, and Deep Learning, Convolutional Neural Networks in Tensorflow, Natural Language Processing in Tensorflow, Sequences, Time Series and Prediction, Neural Network and Deep Learning, Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization

Iran Technical & Vocational Training Organization: Configuration and Settings of Plc (S7-300 & S7-400), Plc S7-300 Programming, Mini Plc Logo, Motor Starting with Contactor, Industrial Electrician, Building Electrician

Kaggle: Python, Pandas, Intro to Machine Learning, Intermediate Machine Learning, Feature Engineering

TEACHING EXPERIANCES

Power Systems Dynamic1	University of Tehran, Fall 2020
Analysis of Power Systems Transients	University of Tehran, Fall 2020
Electrical Machines	Bu-Ali Sina University, Fall 2017
Industrial Electronics	Bu-Ali Sina University, Fall 2017
Fundamentals of Electrical Engineering	Bu-Ali Sina University, Spring 2018

WORK EXPERIANCES

ZHAKET.com, Iran: Backend Developer (Django)   June 2022 - January 2023
- Utilizing sales and inventory data for future planning through effective database management (MySQL, Power BI)
- Python was used to construct a web product monitoring crawler

Vian Steel Complex (VISCO), Iran: Electrical Engineering Internship   June 2017 – September 2017
- Assist in designing and implementing industrial automation systems using Siemens PLCs and devices
- Conduct research on new technologies related to industrial automation
- Prepare technical reports and documentation related to projects

HONORS & AWARDS

- Ranked within top 0.1% among more than 40,000 participations in Iranian university entrance exam for Master's degree (Rank 35)
- Ranked within top 1% among more than 222,000 participations in Iranian university entrance exam for Bachelor's degree (Rank 1525)
- Received national graduate and undergraduate full scholarship

EXTRACURRICULAR ACTIVITIES

Member of the board of directors of "Baran Mehrabani" charity	2018-2019
Supervisor of the education committee at "Baran Mehrabani" charity	2017-2018
Teaching math and Rubik's cube in low-income areas as a member	2017-2018

of the education committee of "Baran Mehrabani" charity

LANGUAGES

- **Persian:** Native
- **English:** Fluent (ILETS will be Taken)

REFFRENCES

Dr. Aymen El-Hag	**University of Waterloo**
Ahalhaj@uwaterloo.ca	
Dr. Amir Abbas Shayegani Akmal	**University of Tehran**
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Dr. Mohammad Amin Ghasemi	**Bu-Ali Sina University**
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