

Farima Iranbakhsh

CONTACT INFORMATION	Iran, Tehran, Seyyed Khandan Bridge. Khajeh Nasir Toosi University of Technology (KNTU) ☎ +989192719760 ✉ farimairanbakhsh@gmail.com 🌐 Farima Iranbakhsh		
EDUCATION	B.Sc. in Electrical Engineering (Fall 2019- Winter 2024) K. N. Toosi University of Technology (5th university in Iran), Tehran, Iran Current GPA ¹ : 16.43/20 (last two years: 17.55/20) Thesis • Identification of Faults and Their Types in Smart Microgrids Using Artificial Intelligence Methods Project Supervisor: Dr. Turaj Amraee In this project, I simulated a standard IEEE 14-bus network in DIgSILENT software and used fault generation in various scenarios to predict the presence or absence of faults and determine their types. Notable Course • Principles of Intelligent Systems grade: 20/20 • Artificial Intelligence grade: 20/20 • Modeling and Simulation grade: 20/20 • Electric Machines I grade: 20/20 • Engineering Electromagnetic grade: 18/20		
INTERESTS	Power Systems / Machine Learning / Smart Grid / Micro Grid / Renewable Energy / Fault Prediction		
RESEARCH EXPERIENCE	• Research on Smart Grid 2022-present <i>under the supervision of Dr. Alireza Fereidunian</i> Explored the integration of renewable energy systems and smart grids within the meta-verse, focusing on energy management and virtual power system simulations. • Research on Fault Prediction 2023-present <i>under the supervision of Dr. Turaj Amraee</i> Conducted research on identifying fault types and predicting fault occurrences in smart microgrids using advanced artificial intelligence techniques, enhancing system reliability and resilience.		
SKILLS	• MachineLearning and Python: Pandas, Numpy, matplotlib, datetime, sklearn, Pyqt, Tensorflow • Tools: Proteous, PSpice, DIgSILENT, ETAP, EPLAN, AutoCAD, MATLAB Simulink, COMSOL, SolidWorks, LATEX • Programming Languages: Python, C, C++, MATLAB, Arduino, LaTeX		

¹ Average University GPA for electrical major is 14.99/20

TEACHING ASSISTANT	• Principles of Intelligent Systems (Fall 2025)	Dr. Aliyari-Shoorehdeli
	• Electrical Installations (Spring 2024)	Dr. Alireza Fereidunian
	• Power Systems Analysis I (Fall 2024)	Dr. Alireza Fereidunian
	• Electric Machines II (Fall 2023)	Dr. Alipour-Sarabi
	• Electric Machines I (Fall 2023)	Dr. Sadegh Mohsenzade
EXPERIENCE	Notable Course Projects	
	• Load Flow Calculation in IEEE 14-Bus System	Fall 2023
	<i>course: Power Systems Analysis I</i> I performed load flow analysis on an IEEE 14-bus system using Gauss-Seidel, Fast Decoupled, and Newton-Raphson methods, along with Economic Dispatch and Asymmetric Fault Analysis, in MATLAB and DIgSILENT PowerFactory.	
	• Design of a 230/63kV Substation	Spring 2022
	<i>course: Design of High Voltage Substations & Project</i> I designed a 230/63kV substation with a 160MVA transformer, including two incoming 230kV lines and three outgoing 63kV lines, developed the SLD and layout, and selected and specified the required equipment and their quantities.	
PROFESSIONAL EXPERIENCE	• Solar Power Plant Data Analysis	Fall 2023
	<i>course: Principles of Intelligent Systems</i> I analyzed 34 days of data from two solar power plants in India, predicting power generation, identifying maintenance needs, and detecting equipment issues using 12 machine learning methods.	
	• Induction Heating System Design and Parameter Identification	Spring 2024
	<i>course: Modeling & Simulation</i> I Designed an induction heating system in COMSOL and identified its parameters in MATLAB using BJ, ARMAX, and ARX models.	
	• Trainee, Omrab Co.	Jun-Sep 2022
HONORS AND AWARDS	Designed electrical panels using EPLAN, ensuring compliance with industry standards and project requirements.	
	• Trainee, FHMElectronics	Sep-Jan 2021
	Developed and programmed Arduino-based projects, enhancing automation and control systems.	
	Top 20% among Electrical Engineering Students, by order of GPA	
	Top 1.5% among Iranian University Entrance Exam participants	
CERTIFICATIONS	A member of IEEE KNTU Student Branch	
	Data Science Introductory Course with Python, Sharif University of Technology	Aug 2023
	Supervised Machine Learning: Regression and Classification, Coursera	Aug 2023
	Cs50x Puzzle day, Harvard University	Apr 2022
LANGUAGES	Farsi (Native)	
	English (Professional, IELTS: 7.5)	
	Korean (Beginner)	

REFERENCES

Dr. Turaj Amraee, Associate Professor of Electrical Engineering, KNTU

Dr. Alireza Fereidunian, Assistant Professor of Electrical Engineering, KNTU

Dr. Mahdi Aliyari-Shoorehdeli, Associate Professor of Control and Mechatronics Engineering, KNTU