Your Name

PERSONAL INFORMATION:

Nationality: Iranian
Birth Date: Feb. 26, 1996
Phone Number: …
Email: …
LinkedIn: …

RESEARCH INTERESTS:

- Power Systems Analysis and Modelling
- Electrical & Hybrid Vehicles
- Smart Grids and Renewable Integration
- Optimization & Machine Learning

EDUCATION:

2018 – 2021 **M.Sc.** Electrical Engineering (Power Systems), Electrical Engineering Department, Sharif University of Technology, Tehran, Iran
Cumulative GPA: **16.45/20** (**3.5/4**)
Thesis Title: Hardening Strategies for Enhancing the Resilience of Electrical Distribution Networks against Earthquake Advisor: Prof. Mehdi Vakillian

2014 – 2018 **B.Sc.** Electrical Engineering, Electrical and Computer Engineering (ECE) Department, Engineering Faculty, University of Tehran, Tehran, Iran
Cumulative GPA: **15.88/20** (**3.3/4**)

PUBLICATIONS:

M. Ahmadi, M. Bahrami, M. Vakilian and M. Lehtonen, "**Application of Hardening Strategies and DG Placement to Improve Distribution Network Resilience against Earthquakes**," *2020 IEEE PES Transmission & Distribution Conference and Exhibition - Latin America (T&D LA)*, 2020, pp. 1-6.

M. Ahmadi, S. Ahmadi, M. Ahmadi-mobarake, and M. Davarpanah, "**Non-Intrusive Load Monitoring Based on Load Current and Load Power**", *8th International Conference on Electrical, Electronic Engineering and Smart Grids, Georgia*, 2022. (Accepted)

HONORS AND AWARDS:

2018 Ranked 29th in the nationwide university entrance exam for graduate studies (M.Sc. program) in Electrical Engineering among 21000 participants (top 0.15%).
2014 Received scholarship from Faculty of Engineering as an exceptional talent student
2014 Ranked 161th among more than 85000 participants in the nation-wide universities entrance exam in the field of Mathematics and Physics (top 0.2%).

WORK EXPERIENCES:

Nov. 2018-Sep. 2019 Cooperation with Iran's National Elites Foundation on Battery Management System (BMS), Electrical Engineering Department, Sharif University of Technology, Supervised by Prof. Farzad Tahami

Summer 2018 Working at the laboratory of Electrical System Failure Analysis (ESFA) on "Non-Intrusive Load Monitoring (NILM)", ECE Department, Engineering Faculty, University of Tehran, Supervised by Prof. Mahdi DavarPanah.

CERTIFICATIONS:

August 2022 Machine Learning Specialization (2/3 Courses), DeepLearning.AI & Stanford University, Andrew Ng, Coursera

Nov.2021-May 2022 Algorithms for Battery Management Systems Specialization (3/5 Courses), University of Colorado Boulder, Coursera

Summer 2016 Assembly and Installation of Electrical Panels, Technical & Vocational Training Organization, Tehran, Iran

Summer 2016 Power Line Technician, Technical & Vocational Training Organization, Tehran, Iran

CAMPUTER SKILLS:

Embedded Programming AVR (IDE: CodeVisionAVR), ARM (IDE: Keil), Arduino
- Professional in Microcontrollers
  - AVR (ATMEGA8, ATMEGA16,ATMEGA32)
  - ARM STM32F4xx

Programming Languages C, Python, GAMS, Assembly,
PCB Software ALTIUM Designer
Simulation Software PSPICE, Proteus, ArcGIS, MATLAB (&Simulink), DigSilent, EMTP-ATP, PLSCADD, Hazard, PV*Sol Premium, CYMGrd, DIALux,
Additional Software Microsoft Office (Word, Power point, Excel), Adobe Premiere, Adobe Photoshop, AutoCAD

LANGUAGE SKILLS:

English TOEFL iBT: 85 (Reading: 25, Listening: 18, Speaking: 21, Writing: 21)

Persian (Native)
German (A2)
Arabic (Familiar)

NOTABLE RESEARCHES, PROJECTS AND PRACTICAL ACTIVITIES:

Spring 2022 Analysis of electric vehicles charging stations threats to power grid and providing an optimized approach for electric grid defence ("**Volunteer Research Assistant**", EE Department, Sharif University of Technology)

Fall 2019 Simulation of and analyzing three-phase transmission line switching over-voltages in different power system modes ("**Power System Transients**", EE Department, Sharif University of Technology)

Nov. 2018-Sep. 2019 Designing and producing a battery pack with 500 Wh capacity, 48-Volt output voltage, and 100 A maximum current for electric vehicles.
- Designing a battery management system (BMS) to monitor the battery pack.
- Designing a circuit to extract SoC-OCV curve of a lithium-ion battery cell.

(*This project was supported by Iran's National Elites Foundation and Supervised by Prof. Farzad Tahami*)

Spring 2019 Researching on self-healing resilient distribution systems based on sectionalization into microgrids ("**Advanced Power System Operation**", EE Department, Sharif University of Technology)

Fall 2018 Providing preventive strategies to harden the power distribution systems against earthquake ("**Electric Energy Distribution Systems**", EE Department, Sharif University of Technology)

Summer 2018 Working on non-intrusive load monitoring (NILM) as bachelor Final Project ("**Bachelor Final Project**", ECE Department, Engineering Faculty, University of Tehran).
This project aimed to predict the behavior of energy consumers and reduce electricity demand. We analyzed the current and power signal of the meter using machine learning approaches to detect household devices whose running status has changed.

Spring 2018 Allocation of the various relays in a specific power system using DigSilent, ("**Relaying and Protection Laboratory**", ECE Department, Engineering Faculty, University of Tehran).

Spring 2018 Design and analysis of substation grounding grid using CYMGrd, ("**HV Substation Design**", ECE Department, Engineering Faculty, University of Tehran).

Fall 2017 Design and Implementation of Traffic Control system using AVR, ("**Microprocessor System Design**", ECE Department, Engineering Faculty, University of Tehran).

Fall 2017 Design of overhead power transmission lines in "PLS-CADD", ("**Design of Energy Transmission Lines**", ECE Department, Engineering Faculty, University of Tehran).

Spring 2017 Designing and simulating the lighting system of a Library and a street in "DIALux", ("**Electrical Installation**", ECE Department, Engineering Faculty, University of Tehran).

Spring 2017 Designing and producing a remote-controlled machine, ("**Industrial Electronics**", ECE Department, Engineering Faculty, University of Tehran).

This project was a real and bulky one that we managed the whole circumstances of the project; Including Car body, 2 DC motors, 2 AVR Microcontrollers, 2 Antennas to exchange the information between sender circuit and receiver circuit, and a battery to supply the energy of the circuits.

Fall 2014 Implementation of a game called "2048" in C code, ("**Introduction to Computing Systems & Programming**", ECE Department, Engineering Faculty, University of Tehran).

TEACHING EXPERIENCES:

Spring 2020 Teaching Assistant, "**Power System Analysis 1**", Supervised by Prof. Mehdi Vakillian
Electrical Engineering Department, Sharif University of Technology

Fall 2019 Teaching Assistant, "**Electric Energy Distribution Systems**", Supervised by Prof. Amir Safdarian
Electrical Engineering Department, Sharif University of Technology

Spring 2019 Teaching Assistant, "**Electrical Machines Laboratory 1**", Supervised by Prof. Mohammad Reza Zolghadri, Electrical Engineering Department, Sharif University of Technology

Spring 2018 Teaching Assistant, "**Electrical Machines 2**", Supervised by Mohammad Taghi Nabavi Razavi,
ECE Department, Engineering Faculty, University of Tehran

HOBBIES AND ACTIVITIES:

Football, Swimming, Watching Movie, Internet Surfing

REFERENCES:

Mehdi Vakillian, Professor, Electrical Engineering Department, Sharif University of Technology
Mahdi Davarpanah, Assistant Professor, ECE Department, Engineering Faculty, University of Tehran
Amir Safdarian, Assistant Professor, Electrical Engineering Department, Sharif University of Technology