Curriculum Vitae

NAME & SURNAME: Hossein Farzin

DATE OF BIRTH: 1 November, 1988

ADDRESS, SUBURB, STATE, POSTAL CODE: Department of Electrical Engineering, Faculty of Engineering, Shahid Chamran University of Ahvaz, Golestan Exp., Ahvaz, Khuzestan, IRAN, P.O Box: 6135785311

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PROFESSIONAL PROFILE:

- Assistant Professor of Electrical Engineering in Shahid Chamran University (SCU) of Ahvaz, Iran

EDUCATION BACKGROUND:

- **Ph.D.:** Sharif University of Technology, Tehran, IRAN. Straight Ph.D. in Electrical Engineering, Power Systems, Sept.2011- Sept. 2016.
  Total GPA: 18.30 out of 20 - **Top Student.**
  Thesis Title: Reliability Studies of a Smart Multi-Microgrid Distribution System.
  Supervisor: Prof. Mahmud Fotuhi-Firuzabad.
  Thesis Grade: Excellent.

- **B.Sc.:** Sharif University of Technology, Tehran, IRAN, B.Sc. in Electrical Engineering, Power Systems, Sept.2007- Sept. 2011.
  Total GPA: 18.66 out of 20 - **Top Student.**
  B.Sc. Project Title: Optimal Capacitor Placement in a Harmonic Polluted Distribution System.
  Supervisor: Prof. Hossein Mokhtari.
  B.Sc. Project Grade: 20 out of 20.

Curriculum Vitae

TEACHING AND TRAINING EXPERINCE:

- Instructor –Power System Reliability, Power System Planning, Electricity Market, M.Sc. Seminar, B.Sc. Project, Electrical Energy Systems Analysis I, Electric Machinery I, Fundamentals of Electrical Engineering I, II & Lab.
  Shahid Chamran University of Ahvaz, Fall 2017-Present.

- Work Shop Presenter – Role of Outage Management in Reliability of Smart Distributions Networks,
  Shahid Chamran University of Ahvaz, Fall 2017.

- Work Shop Presenter – An Introduction to Scientific Articles,
  Shahid Chamran University of Ahvaz, Fall 2019.

- Work Shop Presenter – Academic Success,
  Shahid Chamran University of Ahvaz, Spring 2021.

- Work Shop Presenter – An Introduction to Power Engineering,
  Shahid Chamran University of Ahvaz, Spring 2021.

- Instructor – Fundamentals of Electrical Engineering II, Electrical WorkShop,
  Sharif University of Technology, 2015-2017.

- Teaching Assistant – Power Plants and Electricity Generation Systems, Power System Analysis II, Energy Conversion I Lab, Fundamentals of Electrical Engineering Lab
  Sharif University of Technology, 2011- 2014.

HONOURS AND AWARDS:

- Ranked **2nd in Nationwide Universities Entrance Exam (Konkour)** among almost 300,000 participants, Aug. 2007.

- Ranked **1st among all B.Sc. students** of Power Engineering, Department of Electrical Engineering, Sharif University of Technology, Sept. 2011.

- Direct admission to **'*Straight PhD*'** program from bachelor's degree, Sharif University of Technology, Sept. 2011.

- IEEE Iran Section Honor for **Outstanding PhD Thesis**, May 2017.

- **Member of National Elites Foundation**, Sept. 2007-Present.

- Member and Student at **NODET** (National Organization for Development of Exceptional Talents), 2000-Present.
- Recipient of National Elites Foundation **Scholarship for Young Assistant Professors** (Dr. Kazemi-Ashtiani Award), 2018.

- 2016 IEEE Transactions on Smart Grid **Best Reviewer Award**, Dec. 2016.

- Recipient of National Elites Foundation **Scholarship for Education and Research**, 2007-2016.
- Recipient of **Dean's Honorary Award,** Sharif University of Technology, May 2008.
- 1st Rank in Sharif University of Technology, 30th **National Quran Student Competition,** Apr. 2015.

INTERESTS AND RESEARCH FIELDS:

- Design and Optimization of Microgrids and Active Distribution Systems
- Power System Reliability and Resilience
- Integration of Electric Vehicles (EVs) and Energy Storage Systems (ESSs) in Power Grid
- Smart Grid Technologies and Applications

RESEARCH ACTIVITIES:

PUBLICATIONS:

BOOKS

- **H. Farzin** and Monadi, Persian Translation of the Book "*Smart Grid: Technology and Applications*," by Ekanayake et al, John Wiley & Sons (2012), ***Shahid Chamran University of Ahvaz Press***, to be published.

JOURNAL PAPERS

- [1] M. Fotuhi-Firuzabad, A. Safdarian, M. Moeini-Aghtaie, R. Ghorani, M. Rastegar, and **H. Farzin**, "Upcoming Challenges of Future Electric Power Systems: Sustainability and Resiliency," ***Scientia Iranica***, vol. 23, no. 4, pp. 1565-1577, 2016.
- [2] S. Riahinia, A. Abbaspour, **H. Farzin**, and S. Khalili, "A Dynamic Programming-Based Framework for Distribution System Restoration Considering Load Uncertainties", ***International Transactions on Electrical Energy Systems***, Vol. 27, no. 12, 2017.
- [3] **H. Farzin**, M. Moeini-Aghtaie, and M. Fotuhi-Firuzabad, "A Hierarchical Scheme for Outage Management in Multi-Microgrids," ***International Transactions on Electrical Energy Systems***, Vol. 26, no. 9, pp. 2023–2037, Sept. 2016.
- [4] J. Jedrzejczak, G. Anders, M. Fotuhi-Firuzabad, **H. Farzin**, F. Aminifar, "Reliability Assessment of Protective Relays in Harmonic Polluted Power Systems," ***IEEE Transactions on Power Delivery***, vol. 32, no. 1, pp. 556-564, Feb. 2017.
- [5] M. Moeini-Aghtaie, **H. Farzin**, M. Fotuhi-Firuzabad and R. Amrollahi, "Generalized Analytical Approach to Assess Reliability of Renewable-Based Energy Hubs" ***IEEE Transactions on Power Systems***, vol. 32, no. 1, pp. 368-377, Jan. 2017.
- [6] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "Reliability Studies of Modern Distribution Systems Integrated with Renewable Generation and Parking Lots,"

IEEE Transactions on Sustainable Energy, vol. 8, no. 1, pp. 431-440, Jan. 2017.

- [7] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "A Practical Scheme to Involve Degradation Cost of Lithium-ion Batteries in Vehicle-to-Grid Applications," ***IEEE Transactions on Sustainable Energy***, vol. 7, no. 4, pp. 1730-1738, Oct. 2016.

- [8] **H. Farzin**, M. Moeini-Aghtaie, and M. Fotuhi-Firuzabad, "Reliability Studies of Distribution Systems Integrated with Electric Vehicles under Battery Exchange Mode," ***IEEE Transactions on Power Delivery***, vol. 31, no. 6, pp. 2473-2482, Dec. 2016.

- [9] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "A Stochastic Multi-Objective Framework for Optimal Scheduling of Energy Storage Systems in Microgrids," ***IEEE Transactions on Smart Grid***, vol. 8, no. 1, pp. 117-127, Jan. 2017.

- [10] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "Stochastic Energy Management of Microgrids During Unscheduled Islanding Period," ***IEEE Transactions on Industrial Informatics***, vol. 13, no. 3, pp. 1079-1087, Jun. 2017.

- [11] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "Enhancing Power System Resilience Through Hierarchical Outage Management in Multi-Microgrids," ***IEEE Transactions on Smart Grid***, vol. 7, no. 6, pp. 2869-2879, Nov. 2016.

- [12] **H. Farzin**, R. Ghorani, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "A Market Mechanism to Quantify Emergency Energy Transactions Value in a Multi-Microgrid System," ***IEEE Transactions on Sustainable Energy***, vol. 10, no. 1, pp. 426-437, 2018.

- [13] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "Role of Outage Management Strategy in Reliability Performance of Multi-Microgrid Distribution Systems," ***IEEE Transactions on Power Systems***, vol. 33, no. 3, pp. 2359 – 2369, 2018.

- [14] M. Jooshaki, A. Abbaspour, M. Fotuhi-Firuzabad, **H. Farzin**, M. Moeini-Aghtaie and M. Lehtonen, "A MILP Model for Incorporating Reliability Indices in Distribution System Expansion Planning," ***IEEE Transactions on Power Systems***, vol. 34, no. 3, pp. 2453-2456, May 2019.

- [15] M. Bahrami, M. Fotuhi-Firuzabad, **H. Farzin**, "Reliability Evaluation of Power Grids Considering Integrity Attacks against Substation Protective IEDs," ***IEEE Transactions on Industrial Informatics***, July 2019, to be published.

- [16] M. Jooshaki, **H. Farzin**, A. Abbaspour, M. Fotuhi-Firuzabad, M. Lehtonen, "A Model for Stochastic Planning of Distribution Network and Autonomous DG Units", ***IEEE Transactions on Industrial Informatics***, July 2019, to be published.

- [17] **H. Farzin,** M. Monadi, "Reliability Enhancement of Active Distribution Grids via Emergency V2G Programs: An Analytical Cost/Worth Evaluation Framework," ***Scientia Iranica***, Aug. 2019, to be published.

- [18] R. Ghorani, **H. Farzin,** M. Fotuhi-Firuzabad and F. Wang, "Market design for Integration of renewables into transactive energy systems," ***IET Renewable Power Generation***, Aug. 2019, to be published.

- [19] H. Saber, H. Heidarabadi, M. Moeini-Aghtaie, **H. Farzin**, and M. R. Karimi, "Expansion Planning Studies of Independent-Locally Operated Battery Energy Storage Systems (BESSs): A CVaR-Based Study," ***IEEE Transactions on Sustainable Energy***,

Oct. 2019, to be published.

- [20] E. Mashhour, S. H. Alemohammad, and **H. Farzin**, "Two-Stage Market-Based Service Restoration Method in Multi-Microgrids Distribution Networks," ***IET Generation, Transmission & Distribution***, Oct. 2019, to be published.
- [21] H. Mazaheri, A. Abbaspour, M. Fotuhi-Firuzabad, M. Moeini-Aghtaie, **H. Farzin**, F. Wang, and P. Dehghanian, "An Online Method for MILP Co-Planning Model of Large-Scale Transmission Expansion Planning and Energy Storage Systems Considering N-1 Criterion," ***IET Generation, Transmission & Distribution***, Oct. 2020, to be published.
- [22] M. Bahrami, M. Vakilian, **H. Farzin**, and M. Lehtonen, "Multi-Step Island Formation and Repair Dispatch Reinforced by Mutual Assistance after Natural Disasters," ***International Journal of Electrical Power and Energy Systems***, Oct. 2020, to be published.
- [23] M. Bahrami, M. Vakilian, **H. Farzin**, and M. Lehtonen, "A Stochastic Framework for Optimal Island Formation During Two-Phase Natural Disasters," ***IEEE Systems Journal***, Mar. 2021.
- [24] **H. Farzin**, M. Monadi, M. Fotuhi-Firuzabad, M. Savaghebi, "A Reliability Model for Overcurrent Relays Considering Harmonic-Related Malfunctions," ***International Journal of Electrical Power and Energy Systems***, vol. 131, Apr. 2021.

CONFERENCE PRESENTATIONS:

- [1] E. Vaezizade, M. Rashidinejad, M. Moeini-Aghtaie, and **H. Farzin**, "Economic Dispatch in Multi-Carrier Environment Based on Energy Hubs Concept," *Smart Grid Conference (SGC'14), Niroo Research Institute, Tehran, Iran, 2014,* (In Farsi).
- [2] M. Bahrami, M. Fotuhi-Firuzabad, **H. Farzin**, "A Novel Framework for Assessing the Risk of Cyber Attacks Against Protection Systems", *The 10th IEEE Power System Protection Conference, PSPC, 2016,* (In Farsi).
- [3] M. Ganjkhani, A. Abbaspour, M. Fotuhi-Firuzabad, **H. Farzin**, "Investigation of Price Signal Jamming Attacks in Power Market Incorporating Customer's Elasticity of Demand", *The 4th Iranian Conference on Smart Grids (ICSG 2014), Nov. 9-10, 2014, Niroo Research Institute, Tehran, Iran,* (In Farsi).
- [4] M. Bahrami, M. Fotuhi-Firuzabad, **H. Farzin**, "Quantitative Assessment of Cyber Security Issues on Protection Systems in a Smart Grid", *The 9th IEEE Power System Protection Conference, PSPC, 2015,* (In Farsi).
- [5] H. Mazaheri, A. Abbaspour, M. Fotuhi-Firuzabad, **H. Farzin**, and M. Moeini-Aghtaie, "Investigating the Impacts of Energy Storage Systems on Transmission Expansion Planning" *25th Iranian Conference on Electrical Engineering (ICEE) 2017*.
- [6] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "Charging/Discharging Management of Electric Vehicles: Technical Viewpoint," *Smart Grid Conference (SGC'14), Niroo Research Institute, Tehran, Iran, 2014*.
- [7] **H. Farzin**, M. Fotuhi-Firuzabad and M. Moeini-Aghtaie, "Developing a Stochastic Approach for Optimal Scheduling of Isolated Microgrids," *The 23rd Iranian Conference on Electrical Engineering (ICEE2015),* Tehran, Iran, 2015.

- [8] **H. Farzin**, M. Fotuhi-Firuzabad, and M. Moeini-Aghtaie, "An Investigation of Reliability Impacts of V2G-Capable Vehicles in Municipal Parking Decks," *The 23rd International Conference and Exhibition on Electricity Distribution (CIRED)*, Lyon, France, 2014.

- [9] **H. Farzin**, M. Fotuhi-Firuzabad, and M. Moeini-Aghtaie, "Developing a Hierarchical Scheme for Outage Management in Multi-Microgrids," *PowerTech*, Eindhoven, Netherlands, 2015.

- [10] A. Zargar-Rezaee, M. Fotuhi-Firuzabad, and **H. Farzin**, "Impact of Reliability Considerations on Network Topology Optimization," *The 26th Iranian Conference on Electrical Engineering (ICEE2018)*, Mashhad, Iran, 2018.

- [11] M. Jooshaki, **H. Farzin**, A. Abbaspour, M. Lehtonen, and M. Fotuhi-Firuzabad, "A risk-based framework to optimize distributed generation investment plans considering incentive reliability regulations", *The 25th International Conference and Exhibition on Electricity Distribution (CIRED*), Madrid, Spain, 2019.

- [12] M. Jooshaki, **H. Farzin**, A. Abbaspour, M. Lehtonen, and M. Fotuhi-Firuzabad, "Multi-Objective Stochastic Expansion Planning of Multi-Carrier Energy Distribution Networks Considering Customer-Owned DG Units", *The 25th International Conference and Exhibition on Electricity Distribution (CIRED*), Madrid, Spain, 2019.

- [13] M. Bahrami, M. Vakilian, **H. Farzin**, "Distribution System Resilience Enhancement through Restoration Paths between DERs and Critical Loads", *24th Electrical Power Distribution Conference, Khorramabad, Iran, 2019.*

- [14] **H. Farzin**, M. Monadi, and P. Rodriguez, "A Cost/Worth Analysis Framework for Reliability Enhancement of Multi-Microgrid Distribution Systems," accepted for oral presentation at *IEEE PES General Meeting, Atlanta, GA, USA*, 2019.

- [15] M. Monadi, **H. Farzin**, and P. Rodriguez, "A Distributed Self-Healing Method for Active Distribution Systems," accepted for oral presentation at *International Conference on Renewable Energy Research and Applications (ICRERA), Brasov, Romania*, 2019.

RESEARCH PROJECTS:

- Conducting the research project entitled "Reliability Enhancement of Smart Distribution Systems Using the Energy Stored in Electric Vehicle Batteries", National Elites Foundation, 2019-2020.

- Supervising the project entitled "Research study to design, and implementation of microgrids and prepare the instruction and user manual documents in power distribution systems", Niroo Research Institute, 2020-Present.

- Conducting the project entitled "Protection Coordination Analysis of Reduction Plant #2 MV panels of Khuzestan Steel Company", 2020.

- Conducting the project entitled "Reliability Optimization of Emergency Power Supply in Substation 388 of Khuzestan Steel Company", 2020-present.

- Collaborating to the project entitled "Research and Consulting Services for Identifying 5-year Research and Technology Development Needs of Khuzestan Water and Power Authority, Khuzestan Water and Power Authority, 2019-2020.
- Member of EMS Committee in the project entitled "Iranian Own-Built Control Center", Niroo Research Institute (NRI), 2017.
- Collaborating to the project entitled "A Feasibility Study on Microgrid Usage in Yazd Distribution Company with the Goal of Using Renewable Energies and Distributed Energy Resources", under the supervision of Prof. Mahmud Fotuhi-Firuzabad, 2017.
- Member of Supervisory Committee of the project entitled "An Investigation About Iranian National Natural Gas System Resilience and Proposition of Some Measures for Its Improvement", under the supervision of Prof. Mahmud Fotuhi-Firuzabad, 2014-2017.
- Conducting the project entitled "Optimal Capacitor Placement in Khuzestan's Sub-Transmission and Distribution Grids", Khuzestan Regional Electricity Company (KZREC), Summer 2011.

PROFESSIONAL MEMBERSHIPS:

- Associate Editor of Iranian Journal of Science and Technology: Transactions of Electrical Engineering,
  2018 -Present.
- Associate Editor of Scientia Iranica Journal,
  2019 -Present.
- 2nd Conference on Applied Research in Electrical Engineering, Executive Committee.
  Shahid Chamran University of Ahvaz, 2021.
- 1st Conference on Applied Research in Electrical Engineering, Executive Committee.
  Shahid Chamran University of Ahvaz, 2020.
- 2019 Smart Grid Conference, Scientific Committee.
  Sharif University of Technology, 2019.
- 4th Electrical Energy Consumption Optimizing Conference, Executive Committee.
  Shahid Chamran University of Ahvaz, 2017.
- 12th Iranian and the 2nd International Conference on Machine Vision and Image Processing (MVIP), Scientific and Executive Committees.
  Shahid Chamran University of Ahvaz, 2022.
- Iranian Society of Smart Grid, Security Committee.
  2014-2017.

- Reliability and Distributed Generation Lab., Electrical Engineering Department, Sharif University of Technology,
  2011- 2017.

LANGUAGES:

PERSIAN: Native
ENGLISH: Full Professional Proficiency
ARABIC & FRENCH: Elementary Proficiency