# Mostafa Farrokhabadi

## Contact Information

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https://mfarrokhabadi.github.io/

## Education

**Doctor of Philosophy in Electrical Engineering** — June 2017
University of Waterloo, Waterloo, ON

**Master of Science in Electric Power Engineering** — Apr. 2012
KTH Royal Institute of Technology, Stockholm, Sweden

**Bachelor of Science in Electrical Engineering** — June 2010
Amirkabir University of Technology, Tehran, Iran

## Positions

**Assistant Professor** — July 2022 – present
Electrical and Software Engineering Department
University of Calgary, Calgary, AB

**Adjunct Assistant Professor** — July 2021 – present
Electrical and Computer Engineering Department
University of Waterloo, Waterloo, ON

**Technical Advisory** — Mar. 2023 – Sept. 2023
**Vice President of Technology** — Jan 2021 – Mar. 2023
**Senior Director of Technology** — Jan. 2020 – Dec. 2020
**Director, Grid Analytics and Technology** — Jan. 2019 – Dec. 2019
**Senior Smart Grid & AI Scientist** — May 2018 – Dec. 2018
**Consultant** — Apr. 2018
BluWave-ai, Ottawa, ON

- First employee and technical leader of the company from pre-seed to Series A rounds.

**Postdoctoral Fellow** — May 2017 – Apr. 2018
Electrical and Computer Engineering Department
University of Waterloo, Waterloo, ON

**Visitor Researcher (during PhD)** — Sept. 2016 – Oct. 2016
Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

**Part-Time Electrical Engineer (during PhD)** — Nov. 2015 – May 2016
Hatch Ltd., Toronto Area, ON

**Microgrid Intern (during PhD)** — May 2015 – Aug. 2015
Canadian Solar Inc., Guelph, ON

## Awards & Honours

**Annual Teaching Excellence Award - Electrical and Software Engineering Department** Mar. 2023
University of Calgary Engineering Students' Society

- A plaque awarded annually to one faculty per each department of the UCalgary Schulich School of Engineering.

**Outstanding Service Award** Oct. 2022
IEEE Ottawa Section

- Selected for contributions as the Section's Chair in 2022.

**Delegate to Commonwealth Science Conference (CSC) 2021** Feb. 2021
The Royal Society

- Selected by the Royal Society of Canada to be among the 21 early-career Canadian scientists attending CSC 2021.

**2020 Top Three Associated Editors** Dec. 2020
IEEE Transactions on Smart Grid

- Received the official recognition letter from the Editor-in-Chief of the IEEE Transactions on Smart Grid.

**IEEE 2020 Power & Energy Society Working Group Award - Outstanding Technical Report** July 2020
**IEEE 2020 Power System Dynamic Performance Committee Working Group Award** Nov. 2019
IEEE Task Force on Microgrid Stability Definitions, Analysis, and Modeling

- First author of the report and the paper for the IEEE Task Force that received these recognitions.

**2019 Best Reviewer Award** Jan. 2020
IEEE Transactions on Smart Grid

**Top Forty Under 40** Apr. 2019
Ottawa Business Journal and Ottawa Board of Trade, Ottawa, ON

- Prestigious trophy awarded annually to young accomplished business leaders in Canada's National Capital Region.

**3MT: University Finalist, ECE Department Heat 1$^{st}$ Place and People's Choice Award** Feb. 2017
University of Waterloo, Waterloo, ON

- \$1,000 awarded for the ECE Department Heat 1$^{st}$ place and \$100 awarded for the ECE People's Choice Award.

**Doctoral Thesis Completion Award** Aug. 2016
University of Waterloo, Waterloo, ON

- \$5,000 awarded to a limited number of doctoral students based on the academic standing and quality of research.

**Research Travel Assistantship Award** Mar. 2015
Graduate Studies Office, University of Waterloo, Waterloo, ON

**Amit & Meena Chakma Award for Exceptional Teaching by a Student** Mar. 2015
University of Waterloo, Waterloo, ON

- University of Waterloo most prestigious teaching award; a certificate and \$1,000 awarded annually to three to four graduate students across the campus.

**Exceptional Teaching Assistantship Award** Oct. 2014
Electrical and Computer Engineering Department, University of Waterloo, Waterloo, ON

- A certificate awarded to the top five highest rated teaching assistants in the ECE Department.

**Faculty of Engineering Award (FoE)** Sept. 2012, May 2013, Sept. 2016
Faculty of Engineering, University of Waterloo, Waterloo, ON

- \$1,500 awarded to students with excellent credentials and/or publications.

**Rank 1$^{st}$ in Master Studies Class of 2010** Apr. 2012
Electric Power Systems Division, KTH Royal Institute of Technology, Stockholm, Sweden

## Publications & Patents

### Peer-Reviewed Journals

1. I. Calero, C. A. Cañizares, **M. Farrokhabadi**, and K. Bhattacharya, "Machine Learning-Based Control of Electric Vehicle Charging for Practical Distributions Systems with Solar Generation," *IEEE Trans. Smart Grid*, early access
2. J. Artega, **M. Farrokhabadi**, H. Zareipour, and N. Amjady, "Optimal Solar and Energy Storage System Sizing for Behind the Meter Applications," *IEEE Trans. Sustain. Energy*, vol. 14, no. 1, pp. 537-549, Jan. 2023
3. F. Calero, C. A. Cañizares, K. Bhattacharya, C. Anierobi, I. Calero, M. Z. de Souza, **M. Farrokhabadi**, N. S. Guzman, W. Mendieta, D. Peralta, B. Solanki, N. Padmanabhan, W. Violante, "A Review of Modeling and Applications of Energy Storage Systems in Power Grids," *Proc. IEEE*, Mar. 2022
4. **M. Farrokhabadi**, J. Browell, Y. Wang, S. Makonin, W. Su, and H. Zareipour, "Day-Ahead Electricity Demand Forecasting Competition: Post-COVID Paradigm," *IEEE Open Access J. Power Energy*, vol. 9, pp. 185-191, Mar. 2022
5. **M. Farrokhabadi**, C. A. Cañizares, J. W. Simpson-Porco, E. Nasr, L. Fan, P. Mendoza-Araya, R. Tonkoski, U. Tamrakar, N. D. Hatziargyriou, D. Lagos, R. W. Wies, M. Paolone, M. Liserre, L. Meegahapola, M. Kabalan, A. H. Hajimiragha, D. Peralta, M. Elizondo, K. Schneider, F. Tuffner, and J. T Reilly, "Microgrid Stability Definitions, Analysis, and Examples," *IEEE Trans. Power Syst.*, vol. 35, no. 1, pp. 13-29, Jan. 2020
6. **M. Farrokhabadi**, "Data-Driven Mitigation of Energy Scheduling Inaccuracy in Renewable-Penetrated Grids: Summerside Electric Use Case," *Energies*, vol. 12, no. 12, pp. 2228-2251, June 2019
7. **M. Farrokhabadi**, S. Koenig, C. A. Cañizares, K. Bhattacharya, and T. Leibfried, "Battery Energy Storage System Models for Microgrid Stability Analysis and Dynamic Simulation," *IEEE Trans. Power Syst.*, vol. 33, no. 2, pp. 2301-2312, Aug. 2017
8. **M. Farrokhabadi**, C. A. Cañizares, and K. Bhattacharya, "Unit Commitment in Isolated Microgrids Considering Frequency Control," *IEEE Trans. Smart Grid*, vol. 9, no. 4, pp. 3270-3280, Nov. 2016
9. **M. Farrokhabadi**, C. A. Cañizares, and K. Bhattacharya, "Frequency Control in Isolated/Islanded Microgrids Through Voltage Regulation," *IEEE Trans. Smart Grid*, vol. 8, no. 3, pp. 1185-1194, Oct. 2015
10. L. Vanfretti and **M. Farrokhabadi**, "Consensus-based Course Design and Implementation of Constructive Alignment Theory in a Power System Analysis Course," *Eur. J. Eng. Educ.*, vol. 40, no. 2, pp. 1-16, Oct. 2014
11. **M. Farrokhabadi** and L. Vanfretti, "An Efficient Automated Topology Processor for State Estimation of Power Transmission Networks," *Elect. Power Syst. Res.*, vol. 106, pp. 188-202, Jan. 2014
12. L. Vanfretti and **M. Farrokhabadi**, "Evaluating Constructive Alignment Theory Implementation in a Power System Analysis Course Through Repertory Grids," *IEEE Trans. Educ.*, vol. 56, no. 4, pp. 443-452, Nov. 2013

### Peer-Reviewed Conference Proceedings

13. S. Sharma, and **M. Farrokhabadi**, and H. Zareipour, and P. Musilek, "Mitigating the Energy Market Death Spiral through Long-Term Volume Firming Contracts," in *Proc. IEEE Autumn Meeting on Power Electronics and Computing*, pp. 1-5, Aug. 2023
14. E. Mammadov, **M. Farrokhabadi**, and C. A. Cañizares, "Predictive Maintenance of Wind Generators based on AI Techniques," in *Proc. IEEE PES Innovative Smart Grid Technol. Conf. Europe (ISGT)*, pp. 1-5, Oct. 2021
15. **M. Farrokhabadi**, J. W. Simpson-Porco, and C. A. Cañizares, "Optimal Design of Voltage-Frequency Controllers for Microgrids," in *Proc. IEEE PowerTech*, pp. 1-6, June 2021
16. **M. Farrokhabadi**, C. A. Cañizares, and K. Bhattacharya, "A Voltage-based Frequency Controller for Inverter-based Systems in Microgrids," in *Proc. IEEE Power Energy Soc. Gen. Meet.*, pp. 1-5, July 2016
17. **M. Farrokhabadi**, C. A. Cañizares, and K. Bhattacharya, "Evaluation of Droop-based Controls in an Islanded Microgrid with Electronically Interfaced Distributed Energy Resources," in *Proc. IEEE PowerTech*, pp. 1-6, June 2015
18. **M. Farrokhabadi** and L. Vanfretti, "Phasor-Assisted Automated Topology Processing for State Estimators," in *Proc. IEEE Electr. Power Energy Conf. (EPEC)*, pp. 1-8, Aug. 2013
19. **M. Farrokhabadi** and L. Vanfretti, "State-of-the-Art of Topology Processors for EMS and PMU Applications and Their Limitations," in *Proc. IEEE Ind. Electron. Soc. Annu. Conf. (IECON)*, pp. 1422-1427, Oct. 2012

20. L. Vanfretti and **M. Farrokhabadi**, "Implementing Constructive Alignment Theory in a Power System Analysis Course Using a Consensus Model," in *Proc. IEEE Int. Conf. e-Learning Ind. Electron.*, pp. 94-100, Oct. 2012

21. W. Li, L. Vanfretti, and **M. Farrokhabadi**, "Modeling of Custom Hydro Turbine and Governor Models for Real-Time Simulation," in *Proc. IEEE Complexity Eng. (COMPENG)*, pp. 1-6, June 2012

**Patents**

22. N. Sadeghianpourhamami and **M. Farrokhabadi**, "Systems and Methods for Adaptive Optimization for Electric Vehicle Fleet Charging," Granted USPTO #11267362, Mar. 2022

23. **M. Farrokhabadi** and P. Momtahan, "Systems and Methods for Fluctuating Renewable Energy-Battery Optimization to Improve Battery Life-Time," Granted USPTO #11133676, July 2021

24. **M. Farrokhabadi**, P. Momtahan, and D. Paul, "Methods and Systems for an Enhanced Energy Grid System," Granted USPTO #11170456, Dec. 2019

25. C. Galbraith, K. Green, K. Gun, T. Triplet, A. Linchieh, D. Paul, and **M. Farrokhabadi**, "Systems and Methods for Optimal Control of Electric Vehicle Fleets," Active Provisional USPTO Application, Apr. 2023

26. **M. Farrokhabadi**, F. Odouard, D. Paul, and B. Tamimi, "Systems and Methods for Phantom Diagnostic Metering of Energy Systems," Active Non-Provisional USPTO Application, Dec. 2022

27. C. Galbraith, K. Green, M. John, N. Sadeghianpourhamami, A. Linchieh, D. Paul, and **M. Farrokhabadi**, "Systems and Methods for Energy Distribution Entities and Networks for Electric Vehicle Energy Delivery," Active Non-Provisional USPTO Application, Dec. 2022

28. **M. Farrokhabadi**, N. Sadeghianpourhamami, R. Gahlawat, and D. Paul, "Methods and Systems for Electric Vehicle Telematics Estimation," Active Non-Provisional USPTO Application, Aug. 2022

29. **M. Farrokhabadi**, A. Linchieh, and D. Paul, "Systems and Methods for Dynamic Tuning of Controllers in Power Grids," Active Non-Provisional USPTO Application, Nov. 2021

30. O. Kelly, N. Sadeghianpourhamami, and **M. Farrokhabadi**, "System and Methods for Accelerated Computations in Data-Driven Energy Management Systems," Active Non-Provisional USPTO Application, Aug. 2021

31. Y. Xu and **M. Farrokhabadi**, "Systems and Methods for Efficient Charging of Energy Storage Systems," Active Non-Provisional USPTO Application, Sept. 2020

32. **M. Farrokhabadi**, P. Momtahan, and D. Paul, "Systems and Methods for Distributed Hierarchical Artificial Intelligence in Smart Grids," Active Non-Provisional USPTO Application, July 2020

33. **M. Farrokhabadi**, P. Momtahan, and D. Paul, "Systems and Methods for Hyper Short-Term Wind Power Prediction Using Real-Time Wind Parameter Measurements," Active Non-Provisional USPTO Application, Aug. 2019

**Reports & Magazine Articles**

34. D. Espín-Sarzosa *et al.*, "Trends in Microgrid Modeling for Stability Analysis," *IEEE Power Energy Soc.*, Piscataway, NJ, PES-TR106, pp. 1-200, Feb. 2023

35. C. A. Cañizares, I. Das, M. Elizondo, **M. Farrokhabadi**, N. Hatziargyriou, A. Miragha, E. Nasr, D. Olivares, J. A. Pecas Lopes, J. Reilley, K. Schneider, "Microgrids: Utility Challenges and Opportunities," *IEEE Smart Grid Tech. Act. Committee*, pp. 1-55, Jan. 2022

36. **M. Farrokhabadi** *et al.*, "IEEE-PES Task Force on Microgrid Stability Definitions, Analysis, and Modeling," *IEEE Power Energy Soc.*, Piscataway, NJ, PES-TR66, pp. 1-120, June 2018

37. **M. Farrokhabadi**, B. V. Solanki, S. Koenig, P. S. Sauter, C. A. Cañizares, K. Bhattacharya, T. Leibfried, and S. Hohmann, "Energy Storage in Microgrids: Compensating for Generation and Demand Fluctuations While Providing Ancillary Services," *IEEE Power Energy Mag.*, vol. 15, no. 5, pp. 81-91, Sept. – Oct. 2017

**Case Studies**

38. **Applied Science Team**, "Impact of COVID-19 Related Shutdowns on Utility-Scale Electric Demand and Forecasting: An Indian Metropolitan Area Case Study," *BluWave-ai*, pp. 1-7, Apr. 2020

39. **M. Farrokhabadi**, M. Pirnia, J. Terry, and L. Stacey, "Renewable Energy Generation in Ontario," *University of Waterloo Cases in Design Engineering*, pp. 1-11, June 2015

## Selected Invited Talks & Keynotes

1. "Data-Driven Operation of Electric Distribution Systems," *Upper Bound 2024 (Keynote)*, Edmonton, AB May 2024
2. "Entrepreneurship in Modern Power Systems," *IEEE Southern Alberta Section*, Calgary, AB Mar. 2024
3. "Modern Power Systems Trends," *Bridging Perspectives: The Road to Net-Zero*, Calgary, AB Feb. 2024
4. "Sustainable Energy Systems," *Schulich School of Engineering, University of Calgary*, Calgary, AB Jan. 2023
5. "Trends in Energy Transition," *IEEE Young Professionals (YP) Ottawa Section*, online May 2022
6. "Machine Learning for Modern Distribution Systems," *DISTRIBUTECH International 2022*, Dallas, TX May 2022
7. "Optimal Energy Scheduling for Utilities with a High Penetration of Wind Energy," *Wind Power Data & Digital Innovation Forum (US Edition)*, online Oct. 2021
8. "Machine Learning Applications in Smart Buildings," *Electric Power Research Institute (EPRI)*, online May 2021
9. "Artificial Intelligence for Smart Electric Grids," *QMIND's (Queen's University undergraduate AI organization) Future of AI Symposium*, online Apr. 2021
10. "Environmental Entrepreneurship," *IEEE Women in Engineering (WIE) Ottawa Section*, online Dec. 2020
11. "Post-COVID Energy Transition," *BluWave-ai Global Energy Transition Summit*, online, Aug. 2020
12. "Disruptive Technologies: Multi-Disciplinary Careers for Modern Grids," *IEEE Power & Energy Society General Meeting*, online Aug. 2020
    - Proposed, chaired, and presented in a panel with executive/professor-level participants from Texas A&M University, Electric Power Research Institute (EPRI), and Microsoft.
13. "Microgrid Stability Definitions and Classifications," *IEEE Power & Energy Society*, online July 2020
14. "AI for Smart Grids: Part II," *IEEE Women in Engineering (WIE) Ottawa Section*, online May 2020
15. "AI for Smart Grids," *IEEE Women in Engineering (WIE) Ottawa Section*, Ottawa, ON Mar. 2020
16. "Artificial Intelligence in Smart Grids," *EDIST 2020*, Markham, ON Jan. 2020
    - Proposed, chaired, and presented in a panel with high-profile participants from Natural Resources Canada (NRCan), Independent Electricity System Operator (IESO), and the University of Ottawa.
17. "Can AI tackle Climate Change?," *Curiosity on Stage: Canada Science and Tech. Museum*, Ottawa, ON Oct. 2019
18. "AI Applications for Modern Grids," *Microgrid Global Innovation Forum*, London, UK Sept. 2019
    - Proposed, chaired, and presented in a panel with high-profile participants from Canada, Germany, and UK.
19. "BluWave-ai Technology Roadmap," *BluWave-ai Sustainable Development Technology Canada Grant Announcement*, Ottawa, ON, Aug. 2019
    - Presented BluWave-ai's achievements to a diverse audience including the Honourable Minister Catherine McKenna, Member of Parliament Karen McCrimmon, and Mayor Jim Watson.
20. "Microgrid Stability Definitions and Classifications," *IEEE PowerTech*, Milan, Italy June 2019
21. "Machine Learning for Time Series Prediction in Smart Grids," *IEEE Young Professionals (YP) Ottawa Section*, Ottawa, ON Apr. 2019
22. "IEEE-PES Task Force on Microgrid Stability Analysis and Modeling: Report Overview," *IEEE Power & Energy Society General Meeting*, Chicago, IL July 2017
23. "Frequency Control in Isolated Microgrids Through Voltage Regulation," *2016 Symposium on Microgrids*, Niagara, ON Oct. 2016
24. "Microgrid in Remote Communities," *IEEE Power & Energy Society General Meeting*, Boston, MA July 2016
25. "Open Source Software for Efficient Automated Topology Processing of Power Transmission Networks," *IEEE Power & Energy Society General Meeting*, Vancouver, BC July 2013

## Selected Services

### a) Professional Appointments

**Mini-Track Chair** Jan. 2024 – present
Hawaii International Conference on System Sciences (HICSS), Electric Energy Systems Track

**Graduate Studies Committee Member** Sept. 2023 – present
**Graduate Scholarship Committee Member** Sept. 2023 – present
**Field of Study Exam Committee member** Sept. 2023 – present
University of Calgary, Electrical and Software Engineering Department

**Committee Member** Nov. 2022 – present
University of Calgary, Sustainability Council

**Associate Editor** Jan. 2020 – present
IEEE Transactions on Smart Grid
- Journal impact factor: 10.275

**Associate Editor and Member of Steering Committee** July 2020 – present
IEEE DataPort
- Reviewing and improving the platform's metadata management and maintaining the quality of service.
- Actively questing for new datasets and promoting the platform among researchers and institutions.

**Associate Editor** Mar. 2023 – Feb. 2024
Journal of Modern Power Systems and Clean Energy
- Journal impact factor: 6.3

**Lead Subject Matter Expert** July 2021 – Jan. 2023
IEEE Life Long Learning Initiative on Microgrids, IEEE Academy
- Developed a 15-hour course on microgrids including slides, videos, and tutorials.

**Chair** Jan. 2022 – Dec. 2022
**Vice Chair** Jan. 2021 – Dec. 2021
**Secretary** Feb. 2020 – Dec. 2020
IEEE Ottawa Section
- Supervised the Section's wide range of activities including meetings, seminars, events, etc.

**Guest Associate Editor** Mar. 2021 – Mar. 2022
IEEE Open Access Journal of Power and Energy
- Proposed the Special Section on "COVID-19 Impact on Electrical Grid Operation: Analysis and Mitigation."

**Technical Program Committee Member** Jan. 2022
European Alliance for Innovation (EAI) Smart Grid for Smart City Conference (SGSC) 2022

**Publication Committee Member** July 2021 – Dec. 2021
IEEE Innovative Smart Grid Technologies (ISGT) North America 2022

**Track Chair: Power Electronics, Energy Systems and Sustainable Energy** Apr. 2021 – Nov. 2021
IEEE Canadian Conference of Electrical and Computer Engineering (CCECE) 2021

**Technical Committee Chair** Dec. 2020 – May 2021
Electricity Demand Forecasting Competition: Post-COVID Paradigm
- Proposed, organized, and chaired the Technical Committee of the "Electricity Demand Forecasting Competition: Post-COVID Paradigm," co-sponsored by the IEEE DataPort and IEEE PES WG on Energy Forecasting and Analytics.

**Industrial Relations & Patronage Co-Chair** Apr. 2021
IEEE International Instrumentation & Measurement Technology Conference (I2MTC) 2022

### b) EDI

**Mentor** Jan. 2021 – present
Women in Engineering Career Mentorship Program, University of Waterloo, Waterloo, ON

- Providing support to engineering students in their professional career growth.

**Mentor** fall 202(2, 3)
Global Community Challenge YYC, University of Calgary, Calgary, AB

- Mentored two groups of international students in projects addressing women, youth, and indigenous community's EDI gaps in Canada and the Dry Corridor in Central America.

**Organizer** Nov. 2020
"Women Innovators Driving Climate Change Mitigation" Summit, BluWave-ai, ON

- Initiated the online summit featuring six women leading various sectors of the larger ecosystem tackling climate change.

### c) Volunteer

**Judge** Apr. 202(3, 4)
Calgary Youth Science Fair Society (CYSFS)

- Evaluated STEM projects submitted by teams of elementary and secondary students.

**Mentor** Sept. 2022 – Feb. 2023
IEEE Power & Energy Society (PES) Mentoring Program

- Provided career development guidance to a graduate student member of the IEEE PES.

**Industrial Co-Supervisor** Sept. 2020 – Apr. 2021
Sustainable and Renewable Energy Engineering (SREE) Program, Carleton University, Ottawa, ON

- Supervised a team of undergraduate students carrying out their fourth-year project in the SREE program.

**Application Judge and Mentor** Jan. 2021
TELUS Innovation Challenge, University of Calgary, Calgary, AB

- Selected 20 student teams out of 70+ Canada-wide submissions; mentoring them throughout the final competition.

**Mentor at the "Expectations Teaching Assistant Workshop"** Apr. & Sept. 2015
Faculty of Engineering, University of Waterloo, Waterloo, ON

- Co-mentored graduate students at semi-annual workshops to prepare them for teaching assistantship positions.

**Teaching Assistant Representative and Social Convenor** Sept. 2014 – Sept. 2015
ECE Graduate Student Association, University of Waterloo, Waterloo, ON

- Inaugurated departmental sessions inviting the Department Chair and Associate Chair for Graduate Studies to talk about policies related to graduate students, yielding more transparency of rules and regulations.

**ECE Ambassador** Jan. 2014 – Jan. 2015
Engineering Graduate Studies, University of Waterloo, Waterloo, ON

- Organized events for top prospective graduate students in collaboration with the Associate Dean of Graduate Studies.

**Student Volunteer** May 2014
$27^{\text{th}}$ Canadian Conference on Electrical and Computer Engineering (CCECE), Ryerson University, Toronto, ON

**Research Symposium Committee Member** Mar. 2013
Engineering Graduate Studies, University of Waterloo, Waterloo, ON

- Coordinated a research symposium for graduate students in collaboration with the Associate Dean of Graduate Studies.

**Student Volunteer** Aug. 2011
$17^{\text{th}}$ Power Systems Computation Conference (PSCC), KTH Royal Institute of Technology, Stockholm, Sweden

### d) Referee

**Journal Reviewer**
IEEE Transactions on Smart Grid; IEEE Transactions on Sustainable Energy; IEEE Transactions on Power Systems; IEEE Access; IET Generation, Transmission, and Distribution; Electric Power Systems Research

**Graduate Exam Neutral Chair**
Electrical and Software Engineering Department, University of Calgary, Calgary, AB

- MSc Thesis Exam: Ronak Barati, Jan. 15, 2024.
- PhD Thesis Exam: Mohammad Radpour, Sept. 5, 2023.
- PhD Thesis Exam: Hossein Mohammadi Rouzbahani, Nov. 29, 2022.
- PhD Candidacy Exam: Hammam Orabi, Oct. 19, 2022.

**Graduate Exam Committee Member**
Electrical and Software Engineering Department, University of Calgary, Calgary, AB

- PhD Candidacy Exam: Ahmed El-Shafei, Dec. 5, 2022.
- MSc Thesis Exam: Yuvraj Zala, Oct. 31, 2022.

School of Electrical Engineering, Aalto University, Finland

- PhD Thesis Pre-Exam: Mobina Pouresmaeil, Oct. 2022.

**Hiring Committee**
University of Calgary, Calgary, AB

- Electrical and Software Engineering Department, May 2022.
- Sustainable Systems Engineering Program, May 2022.

## Academic Supervision

**Supervisor**
University of Calgary, Calgary, AB

- Haotian Yao, Postdoctoral, Electrical and Software Engineering. May 2024 – present
- Chibuike Ohanu, PhD, Electrical and Software Engineering. May 2024 – present
- Ala'a Al-Sharif, PhD, Electrical and Software Engineering. Jan. 2024 – present
- Vahid Hakimian, PhD, Electrical and Software Engineering. Sept. 2023 – present
- Irtaza Sohail, MSc, Electrical and Software Engineering. May 2024 – present
- Masoud Hajian Foroushani, MSc, Electrical and Software Engineering. Jan. 2024 – present
- Punsara Hansanee Samarakkody, MSc, Electrical and Software Engineering. May 2023 – present
- Saud Amjad, Undergradute Summer Research Intern, Electrical and Software Engineering. May 2024 – present
- Jailim Lugo, Undergradute Summer Research Intern, Electrical and Software Engineering. May 2023 – Aug. 2023

**Co-Supervisor**
University of Calgary, Calgary, AB

- Sumedha Sharma, Postdoctoral, Electrical and Software Engineering. Aug. 2022 – Dec. 2023
- Shoaib Hussain, PhD, Electrical and Software Engineering. Aug. 2022 – present
- Samuel Bakker, MSc, Electrical and Software Engineering. Feb. 2023 – present
- Abhinav Ayri, MSc, Electrical and Software Engineering. Nov. 2022 – present
- Ari Gordon, MEng Graduate Project, Electrical and Software Engineering. Jan. 2023 – Apr. 2023

**Fourth-Year Project Academic Advisor**
University of Calgary, Calgary, AB

- Advised four teams of BSc students at the Electrical and Software Engineering Department. 2022-3 & 2023-4

## Teaching Experience

**Course Coordinator and Instructor** Jan. 2023 – present
University of Calgary, Calgary, AB

- ENEL 487: Electrical Energy Systems Engineering.
- ENEL 670: Power Systems Analyses Applications.

**Teaching Assistant** Sept. 2012 – Aug. 2016
University of Waterloo, Waterloo, ON

- Tutored for several undergraduate courses in electrical engineering and computer science.

## Selected Certificates

- Applied Data Science with Python, University of Michigan, MI
- Graduate Certificate in University Teaching (CUT), University of Waterloo, ON
- Power and Energy Society certificate in Microgrids, IEEE Boston Chapter
- Certificate in Real-Time Simulation, OPAL-RT
- Certificate for Fundamentals of University Teaching, University of Waterloo, ON

## Memberships

**Member** Dec. 2021 – present
IEEE Eta Kappa Nu (IEEE-HKN)

**Member** Aug. 2020 – present
IEEE Power System Dynamic Performance Committee

**Member (S'12, M'2017, SM'2022)** Jan. 2012 – present
IEEE, IEEE Power and Energy Society

**Professional Engineer (P.Eng.)** July 2023 – present
Professional Engineers Ontario