

Mohammad Ostadijafari

PH.D. STUDENT

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Experience

Washington State University

Pullman, WA, USA

GRADUATE RESEARCH ASSISTANT

Jan. 2018 - PRESENT

- Currently working on design a bilateral contract and development of the retail market for a better residential demand-side participation based on the residential HVAC loads – Project funded by Avista Utility (MATLAB, Python)
- Develop a HVAC system controller to minimize the net cost of energy usage while satisfying the comfort-level of building's occupants – Project funded by Department Of Energy (MATLAB)
- Developed an equivalent linear model for thermal loads of a building that can mimic dynamical behaviour of the main non-linear model – Project funded by Department Of Energy (MATLAB)
- Developed platform for comparing decentralized and centralized distribution market – Project funded by Department Of Energy (MATLAB, Python, VOLTTRON, MATPOWER, OpenDSS)
- Design a Control algorithm for Inverter-based Microgrids (MATLAB)

Islamic Azad University

Tehran, Iran

GRADUATE RESEARCH ASSISTANT

Aug. 2013 - Aug. 2015

- Studied application of consensus theory for decentralized control in the sparse network(MATLAB)

Education

Washington State University

Pullman, WA, USA

PH.D IN ELECTRICAL ENGINEERING (POWER SYSTEMS)

Jan. 2018 - PRESENT

- Adviser: Dr. Anamika Dubey
- Cumulative GPA: 3.67 on a 4.00 scale
- Relevant Coursework: Power System Analysis, Substation Design, Power System Stability and Control, Data Science, Power System Operation and Control, Power Quality, Power Market

Islamic Azad University

Tehran, Iran

M.S. IN ELECTRICAL ENGINEERING (CONTROL SYSTEMS)

2013 - 2015

- Adviser: Dr. Ayaz Ghorbani
- Cumulative GPA: 3.64 on a 4.00 scale
- Relevant Coursework: Dynamic Programming, Linear Optimization, Nonlinear Control, Artificial Intelligence, Modern Control

Islamic Azad University

Tehran, Iran

B.E. IN ELECTRICAL ENGINEERING

2010 - 2013

- Cumulative GPA: 3.54 on a 4.00 scale
- Relevant Coursework: Basic Electrical, Electronic Circuits, Digital Logic, C, C++, Microprocessor, Electric Machines, Signal Analysis, Digital Signal Processing, Control System, Power System Analysis

Skills

Programming Languages Python, LaTeX

Simulation Application MATLAB, PowerWorld, MATPOWER, PSCAD, OpenDSS

Recent Publications

- **M. Ostadijafari**, A. Dubey, and N. Yu, "Linearized Price-Responsive HVAC Controller for Optimal Scheduling of Smart Building Loads," in *IEEE Transactions on Smart Grid*, pp. 1-14, 2020.
- **M. Ostadijafari**, Rahul Ranjan Jha and A.Dubey, "Aggregation and Bidding of Residential Demand Response into Wholesale Market", *2020 IEEE Texas Power and Energy Conference (TPEC)*, 2020, pp. 1-6.
- **M. Ostadijafari**, A. Dubey, Y. Liu, J. Shi, and N. Yu, "Smart Building Energy Management using Nonlinear Economic Model Predictive Control," *2019 IEEE Power & Energy Society General Meeting*, Atlanta, GA, 2019, pp. 1-5.
- **M. Ostadijafari** and A. Dubey, "Linear Model-Predictive Controller (LMPC) for Building's Heating Ventilation and Air Conditioning (HVAC) System," *2019 Conference On Control Technology And Applications*, Hong Kong, China, 2019, pp. 1-5.
- **M. Ostadijafari**, Rahul Ranjan Jha and A.Dubey, "Conservation Voltage Reduction by Coordinating Legacy Devices, Smart Inverters and Battery", *2019 North American Power Symposium (NAPS)*, Wichita, KS, 2019, pp. 1-5.
- A.Maruf, **M. Ostadijafari**, A. Dubey, and S. Roy, "Small-Signal Stability Analysis for Droop-Controlled Inverter-based Microgrids with Losses and Filtering," *In Proceedings of the Tenth ACM International Conference on Future Energy Systems*, ACM, pp. 355-366, Jun 2019.