

Iman Sadeghkhanian

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Employment

Najafabad Branch, Islamic Azad University

Assistant Professor

Department of Electrical Engineering

Najafabad, Iran

Jan. 2017 to Present

AFFILIATE FACULTY, SMART MICROGRID RESEARCH CENTER

Najafabad Branch, Islamic Azad University

Instructor

Department of Electrical Engineering

Najafabad, Iran

Feb. 2013 to Dec. 2016

Education

Isfahan University of Technology

Ph.D. in Electrical Engineering

Dissertation: Management of Inverter-Based Microgrids Performance

During and After Short-Circuit and Overload Faults

Supervisor: Prof. M.E. Hamedani Golshan

Advisers: A. Mehrizi-Sani (Washington State University, USA)

and A. Ketabi (University of Kashan, Iran)

Informal Adviser: Prof. J.M. Guerrero (Aalborg University, Denmark)

GPA: 18.04/20

Isfahan, Iran

Sept. 2011 to Jan. 2017

University of Kashan

M.Sc in Electrical Engineering

Thesis: Using Artificial Neural Network for Estimation of Switching

and Resonance Overvoltages during Bulk Power System Restoration

Supervisor: A. Ketabi

GPA: 18.55/20

Kashan, Iran

Sept. 2007 to Dec. 2009

Najafabad Branch, Islamic Azad University

B.Sc in Electrical Engineering

Track: Power Engineering

Supervisor: A.A. Amini

GPA: 17.61/20

Najafabad, Iran

Sept. 2003 to July 2007

Research Interests

- Microgrid protection;
- Control of microgrids and smart grids;
- Power electronics interfaces for distributed generation;

- Distributed generation;

Awards and Honors

- Exceptional reviewer award for IEEE Transactions on Power Delivery, 2014.
- Distinguished researcher of University of Kashan, 2010.
- Best paper award in the 2nd National Electrical Engineering Conference, 2010.
- Ranked 2nd among all the electrical engineering M.Sc students, 2009.
- Ranked 1st among all the electrical engineering B.Sc students, 2007.

Teaching Experience

Instructor

Analysis of Electrical Energy Systems I

- 2017 evaluation: 4.39/5.
- 2016 evaluation: 4.49/5.
- 2015 evaluation: 4.4/5.

Najafabad Branch, Islamic Azad University

Fall 2015, 16, Spring 2016, 17

Instructor

Electrical Machines II

- 2017 evaluation: 4.36/5.
- 2016 evaluation: 4.64/5.
- 2015 evaluation: 4.46/5.
- 2014 evaluation: 4.29/5.
- 2013 evaluation: 4.49/5.
- 2012 evaluation: 4.33/5.

Najafabad Branch, Islamic Azad University

Fall 2012, 13, 14, 15, 16, 17, Spring 2013, 14, 15, 16, 17

Instructor

Power Systems Laboratory

- 2017 evaluation: 4.48/5.
- 2015 evaluation: 4.76/5.
- 2014 evaluation: 4.34/5.
- 2013 evaluation: 4.58/5.
- 2012 evaluation: 4.5/5.

Najafabad Branch, Islamic Azad University

Fall 2012, 13, 14, 15, 17, Spring 2012, 13, 14, 15, 17

Instructor

Power Systems Analysis I

- 2016 evaluation: 4.48/5.
- 2015 evaluation: 4.36/5.
- 2014 evaluation: 4.47/5.
- 2013 evaluation: 4.29/5.
- 2012 evaluation: 4.1/5.

Najafabad Branch, Islamic Azad University

Fall 2012, 13, 14, 16, Spring 2013, 14, 15

Instructor

Research Method

- 2017 evaluation: 4.16/5.

Najafabad Branch, Islamic Azad University

Fall 17

Instructor

Electricity Workshop

- 2017 evaluation: 4.53/5.

Najafabad Branch, Islamic Azad University

Fall 17

Instructor*Electrical Engineering Basics I*

- 2017 evaluation: 4.71/5.
- 2016 evaluation: 4.80/5.

Najafabad Branch, Islamic Azad University*Fall 2016, 17, Spring 2017***Instructor***Electrical Engineering Basics***Isfahan University of Technology***Fall 2013, Spring 2014***Student Statistics**

- 2017: 234 students (Spring), 220 students (Fall).
- 2016: 140 students (Spring), 227 students (Fall).
- 2015: 99 students (Spring), 183 students (Fall).
- 2014: 137 students (Spring), 108 students (Fall).
- 2013: 176 students (Spring), 175 students (Fall).
- 2012: 77 students (Spring), 327 students (Fall).

Professional Activities & Service

Executive Director, Journal of Intelligent Procedures in Electrical Technology*Najafabad Branch, Islamic Azad University**2014 to Present***Conference Committee**

- *Secretary of International Affairs, National Electrical Engineering Conference (NEEC 2018).*
- *Technical Program Committee, IEEE International Conference on Power Electronics, Instrumentation, Control and Computing (PICC 2018).*

Peer Review Service

- *Reviewer, IEEE Transactions on Power Systems, 2016-Present.*
- *Reviewer, IEEE Transactions on Power Delivery, 2011-Present.*
- *Reviewer, IEEE Transactions on Smart Grid, 2015-Present.*
- *Reviewer, IEEE Transactions on Industrial Electronics, 2017-Present.*
- *Reviewer, IEEE Power Engineering Letters, 2016-Present.*
- *Reviewer, IEEE Power and Energy Technology Systems Journal, 2014-Present.*
- *Reviewer, IEEE Access, 2018-Present.*
- *Reviewer, IET Generation, Transmission & Distribution, 2014-Present.*
- *Reviewer, IET Renewable Power Generation, 2018-Present.*
- *Reviewer, IET Smart Grid, 2018-Present.*
- *Reviewer, IET Science, Measurement & Technology, 2014-Present.*
- *Reviewer, (IET) Electronics Letters, 2018-Present.*
- *Reviewer, International Transactions on Electrical Energy Systems, 2012-Present.*
- *Reviewer, International Journal of Electrical Power & Energy Systems, 2012-Present.*
- *Reviewer, Electric Power Components and Systems, 2012-Present.*
- *Reviewer, Journal of Electrical Engineering & Technology, 2014-Present.*
- *Reviewer, International Journal of Emerging Electric Power Systems, 2013-Present.*
- *Reviewer, Journal of Energy Engineering Management, 2015-Present.*
- *Reviewer, Journal of Intelligent Procedures in Electrical Technology, 2017-Present.*
- *Reviewer, IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC 2017).*

- *Reviewer*, IEEE International Conference on Power Electronics, Drives, and Energy Systems (PEDES 2016).

Professional Society Membership

- Member, Institute of Electrical and Electronics Engineers (IEEE), 2017.
- Member, IEEE Young Professionals, 2015-2017.
- Graduate Student Member, IEEE, 2015-2016.
- Student Member, IEEE Power & Energy Society (PES), 2015.
- Member, Iran's National Elites Foundation, 2012-Present.
- Member, Isfahan Construction Engineering Disciplinary Organization, 2014-Present.

Publications

Books.....

- [B2] A. Ketabi and I. Sadeghkhan, *Electric Power Systems Simulation Using MATLAB*, 5th Edition, Morsal Publications & Allameh Feiz Kashani Institute of Higher Education Publications, Kashan, Iran, 2017. (in Persian)
- [B1] I. Sadeghkhan and A. Ketabi, *Switching Overvoltages during Restoration: Evaluation and Control Using ANN*, Lambert Academic Publishing, Köln, Germany, Aug. 2012.

Selected Refereed Journal Articles (Published / Accepted).....

- [J28] I. Sadeghkhan, M.E. Hamedani Golshan, A. Mehrizi-Sani, J.M. Guerrero, and A. Ketabi, "Transient monitoring function-based fault detection for inverter-interfaced microgrids," *IEEE Trans. Smart Grid*, vol. 9, no. 3, pp. 2097-2107, May 2018.
- [J27] I. Sadeghkhan, M.E. Hamedani Golshan, A. Mehrizi-Sani, and J.M. Guerrero, "Low voltage ride-through of a droop-based three-phase four-wire grid-connected microgrid," *IET Gener. Transm. Distrib.*, vol. 12, no. 8, pp. 1906-1914, Apr. 2018.
- [J26] H. Bisheh, B. Fani, and I. Sadeghkhan, "Protection coordination scheme for distribution networks with high penetration of photovoltaic generators," *IET Gener. Transm. Distrib.*, vol. 12, no. 8, pp. 1802-1814, Apr. 2018.
- [J25] B. Ahmadzadeh-Shooshtari, M.E. Hamedani Golshan, and I. Sadeghkhan, "Comprehensive Investigation of the Voltage Relay for Anti-Islanding Protection of Synchronous Distributed Generation," *Int. T. Electr. Energy*, vol. 27, no. 11, Nov. 2017.
- [J24] I. Sadeghkhan, M.E. Hamedani Golshan, J.M. Guerrero, and A. Mehrizi-Sani, "A current limiting strategy to improve fault ride-through of inverter interfaced autonomous microgrids," *IEEE Trans. Smart Grid*, vol. 8, no. 5, pp. 2138-2148, Sept. 2017.
- [J23] A. Sadoughi and I. Sadeghkhan, "Using one-cycle control based series voltage-sourced converter to suppress starting current of induction motors," *Journal of Engineering Science and Technology*, vol. 12, no. 4, pp. 937-949, Apr. 2017.
- [J22] B. Ahmadzadeh-Shooshtari, M.E. Hamedani Golshan, and I. Sadeghkhan, "A combined method to efficiently adjust frequency-based anti-islanding relays of synchronous distributed generation," *Int. T. Electr. Energy*, vol. 25, no. 11, pp. 3042-3059, Nov. 2015.
- [J21] A. Yazdekhashti, A. Ketabi, and I. Sadeghkhan, "One-cycle control application to wind turbine power control," *Int. T. Electr. Energy*, vol. 25, no. 10, pp. 2427-2442, Oct. 2015.
- [J20] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "An intelligent switching overvoltages estimator for power system restoration using artificial neural network," *Int. J. Innov. Comput. I.*, vol. 10, no. 5, pp. 1791-1808, Oct. 2014.

- [J19] A. Sadoughi and I. Sadeghkhan, "An intelligent estimator for transient overvoltages study during induction motors starting," *J. Math. Computer Sci.*, vol. 9, no. 4, pp. 249-262, Oct. 2014.
- [J18] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Extended delta-bar-delta algorithm application to evaluate transmission lines overvoltages," *Engineering Journal*, vol. 17, no. 4, pp. 79-92, Oct. 2013.
- [J17] A. Ketabi, I. Sadeghkhan, and R. Feuillet, "Network switching and voltage evaluation during power system restoration," *Electr. Eng.*, vol. 95, no. 3, pp. 241-253, Sept. 2013.
- [J16] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Investigation of transmission line models for switching overvoltages studies," *Int. J. Emerg. Elec. Power Syst.*, vol. 14, no. 3, pp. 231-238, July 2013.
- [J15] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "The study of switching overvoltages under power system restoration scenario using extended delta-bar-delta algorithm," *Int. J. Emerg. Elec. Power Syst.*, vol. 14, no. 3, pp. 219-230, July 2013.
- [J14] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Delta-bar-delta and directed random search algorithms application to reduce transformer switching overvoltages," *International Journal on Electrical Engineering and Informatics*, vol. 5, no. 1, pp. 55-66, Mar. 2013.
- [J13] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Artificial intelligence based techniques to evaluate switching overvoltages during power system restoration," *Advances in Artificial Intelligence*, vol. 2013, pp. 1-8, Jan. 2013.
- [J12] I. Sadeghkhan, A. Ketabi, and S.A. Taher, "Mitigation of shunt reactor overvoltages using delta-bar-delta and directed random search algorithms," *Prz. Elektrotechniczn.*, vol. 88, no. 12a, pp. 269-274, Dec. 2012.
- [J11] A. Ketabi, I. Sadeghkhan, and R. Feuillet, "Switching overvoltages analysis during shunt reactor energization using ANN," *Eng. Intell. Syst. Elec.*, vol. 20, no. 4, pp. 223-233, Dec. 2012.
- [J10] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Control of shunt reactor overvoltages by controlled switching during power system restoration," *J. Circuit Syst. Comp.*, vol. 21, no. 7, pp. 1-15, Nov. 2012.
- [J9] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Radial basis function neural network application to measurement and control of shunt reactor overvoltages based on analytical rules," *Math. Probl. Eng.*, vol. 2012, pp. 1-14, 2012.
- [J8] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Radial basis function neural network application to power system restoration studies," *Comput. Intell. Neurosci.*, vol. 2012, pp. 1-10, 2012.
- [J7] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Study of transformer switching overvoltages during power system restoration using delta-bar-delta and directed random search algorithms," *Int. J. Emerg. Elec. Power Syst.*, vol. 13, no. 3, pp. 1-22, Aug. 2012.
- [J6] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Delta-bar-delta and directed random search algorithms to study capacitor banks switching overvoltages," *Serb. J. Electr. Eng.*, vol. 9, no. 2, pp. 217-229, June 2012.
- [J5] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "An approach to evaluate switching overvoltages during power system restoration," *Serb. J. Electr. Eng.*, vol. 9, no. 2, pp. 171-187, June 2012.
- [J4] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Artificial neural network based method to mitigate temporary overvoltages," *J. Eng. Sci. Technol. Rev.*, vol. 4, no. 2, pp. 193-200, Dec. 2011.
- [J3] A. Ketabi, I. Sadeghkhan, and R. Feuillet, "Using artificial neural network to analyze

harmonic overvoltages during power system restoration," *Eur. T. Electr. Power*, vol. 21, no. 7, pp. 1941-1953, Oct. 2011.

- [J2] S.A. Taher and I. Sadeghkhan, "Estimation of magnitude and time duration of temporary overvoltages using ANN in transmission lines during power system restoration," *Simul. Model. Pract. Th.*, vol. 18, no. 6, pp. 787-805, June 2010.
- [J1] A. Ketabi, I. Sadeghkhan, and R. Feuillet, "Overvoltages study during three-phase transformer energization using artificial neural network," *International Review of Electrical Engineering*, vol. 5, no. 1, pp. 138-147, Feb. 2010.

Conference Papers.....

- [C9] B. Ahmadzadeh-Shooshtari, M.E. Hamedani Golshan, and I. Sadeghkhan, "Adjustment of synchronous distributed generation anti-islanding protection for Isfahan network," in *Proc. 29th Int. Power System Conf.*, Tehran, Iran, Oct. 2014. (in Persian)
- [C8] I. Sadeghkhan, A. Mortazavian, and A. Ketabi, "A method for harmonic overvoltages reduction during transformers energization by controlled switching," in *Proc. 26th Int. Power System Conf.*, Tehran, Iran, Oct. 2011. (in Persian)
- [C7] I. Sadeghkhan and A. Ketabi, "Analysis of harmonic overvoltages in three-phase transformers during power system restoration," in *Proc. 25th Int. Power System Conf.*, Tehran, Iran, Nov. 2010. (in Persian)
- [C6] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "Estimation of temporary overvoltages during power system restoration using artificial neural network," in *Proc. IEEE 15th Int. Conf. on Intelligent System Applications to Power Systems*, Curitiba, Brazil, Nov. 2009.
- [C5] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "New approach to harmonic overvoltages reduction during transformer energization via controlled switching," in *Proc. IEEE 15th Int. Conf. on Intelligent System Applications to Power Systems*, Curitiba, Brazil, Nov. 2009.
- [C4] I. Sadeghkhan, A. Ketabi, and R. Feuillet, "New approach to analyze temporary overvoltages during transformer energization," in *Proc. IEEE Electric Power and Energy Conversion System*, Sharjah, UAE, Nov. 2009.
- [C3] I. Sadeghkhan and A. Ketabi, "Estimation of harmonic overvoltages during transformer energization using artificial neural network," in *Proc. 24th Int. Power System Conf.*, Tehran, Iran, Nov. 2009. (in Persian)
- [C2] I. Sadeghkhan and S.A. Taher, "Analysis of transient overvoltages in transmission lines during power system restoration," in *Proc. 2nd National Electrical Engineering Conf.*, Iran, Feb. 2010. (in Persian)
- [C1] A. Ketabi and I. Sadeghkhan, "Efficiency optimization for three-phase induction motors based on stator winding change," in *Proc. 2nd National Electrical Engineering Conf.*, Iran, Feb. 2010. (in Persian)

Theses.....

- [T3] I. Sadeghkhan, "Management of inverter-based microgrids performance during and after short-circuit and overload faults," Ph.D. dissertation, Dept. Elect. Comp. Eng., Isfahan Univ. Tech., Isfahan, Iran, 2017.
- [T2] I. Sadeghkhan, "Using artificial neural network for estimation of switching and resonance overvoltages during bulk power system restoration," Master's thesis, Dept. Elect. Eng., Univ. Kashan, Kashan, Iran, 2009.
- [T1] I. Sadeghkhan, "Electric motor drive systems," B.Sc. thesis, Dept. Elect. Eng., Najafabad Branch, Islamic Azad Univ., Najafabad, Iran, 2007.

Adviser

Doctoral Student–Current.....

- [1] Hamed Karimi, Najafabad Branch, Islamic Azad Univ., Main Adviser: Dr. B. Fani, started Aug. 2017.

Master’s Students–Current.....

- [2] Aria Khoshnami, Najafabad Branch, Islamic Azad Univ., started Oct. 2017.
[1] Mehdi Salehi, Univ. Kashan, Main Adviser: Prof. S.A. Taher, started Jun. 2017.

Undergraduate Students.....

- [24] Amir Mohsen Rahaei, Najafabad Branch, Islamic Azad Univ., Final: Feb. 2018.
[23] Mojtaba Heydari, Najafabad Branch, Islamic Azad Univ., Final: Dec. 2017.
[22] Mohammad Amin Masoudi, Najafabad Branch, Islamic Azad Univ., Final: Sept. 2017.
[21] Mohammad Sadeghi, Najafabad Branch, Islamic Azad Univ., Final: Aug. 2017.
[20] Rasool Heydarian, Najafabad Branch, Islamic Azad Univ., Final: Dec. 2015.
[19] Mohammad Mehdi Heidari, Najafabad Branch, Islamic Azad Univ., Final: Dec. 2015.
[18] Vahid Amani, Najafabad Branch, Islamic Azad Univ., Final: Oct. 2015.
[17] Mehdi Pirzal, Najafabad Branch, Islamic Azad Univ., Final: Aug. 2015.
[16] Mastroore Hashemi, Najafabad Branch, Islamic Azad Univ., Final: July 2015.
[15] Reza Rostami, Najafabad Branch, Islamic Azad Univ., Final: June 2015.
[14] Reyhane Moradi, Najafabad Branch, Islamic Azad Univ., Final: Mar. 2015.
[13] Hadi Zare, Najafabad Branch, Islamic Azad Univ., Final: Feb. 2015.
[12] Mohsen Karimzadeh, Isfahan Univ. Tech., Main Adviser: Prof. M.E. Hamedani Golshan, Final: Sept. 2014.
[11] Mohammad Hossein Boostan Afrooz, Isfahan Univ. Tech., Main Adviser: Prof. M.E. Hamedani Golshan, Final: Sept. 2014.
[10] Reza Ghasemi, Najafabad Branch, Islamic Azad Univ., Final: Dec. 2013.
[9] Masoud Sharif, Najafabad Branch, Islamic Azad Univ., Final: Dec. 2013.
[8] Dariush Farhang, Najafabad Branch, Islamic Azad Univ., Final: Dec. 2013.
[7] Sina Khodabandeh, Najafabad Branch, Islamic Azad Univ., Final: Sept. 2013.
[6] Ali Safdarian, Najafabad Branch, Islamic Azad Univ., Final: July 2013.
[5] Arman Fathollahi, Najafabad Branch, Islamic Azad Univ., Final: May 2013.
[4] Mahyar Farrokhi, Najafabad Branch, Islamic Azad Univ., Final: Apr. 2013.
[3] Ali Savarnejad, Najafabad Branch, Islamic Azad Univ., Final: Mar. 2013.
[2] Hamid Nazemi Ardakani, Isfahan Univ. Tech., Main Adviser: Prof. M.E. Hamedani Golshan, Final: Sept. 2012.
[1] Mousa Khodadadi, Isfahan Univ. Tech., Main Adviser: Prof. M.E. Hamedani Golshan, Final: Sept. 2012.