

# Iman Sadeghkhan

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## Employment

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### 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

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### 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

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

- Distributed generation;

## Awards and Honors

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- 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

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### 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**

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**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*, IET Generation, Transmission & Distribution, 2014-Present.
- *Reviewer*, IET Smart Grid, 2018-Present.
- *Reviewer*, IET Electronics Letters, 2018-Present.
- *Reviewer*, IET Science, Measurement & Technology, 2014-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

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### 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, 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.
- [J27] 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.
- [J26] 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.
- [J25] 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.
- [J24] 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*, Sep. 2016. DOI: 10.1109/TSG.2016.2606519.
- [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. Yazdekhasti, 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. Sadeghkhani, "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. Sadeghkhani, 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. Sadeghkhani, "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. Sadeghkhani, 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. Sadeghkhani 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. Sadeghkhani, 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. Sadeghkhani, 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. Sadeghkhani, 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. Sadeghkhani 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. Sadeghkhani 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. Sadeghkhani, "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. Sadeghkhani, "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. Sadeghkhani, "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. Sadeghkhani, "Electric motor drive systems," B.Sc. thesis, Dept. Elect. Eng., Najafabad Branch, Islamic Azad Univ., Najafabad, Iran, 2007.

## Adviser

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### 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.