



Amin Karimi

Lecturer

Electrical and Computer Engineering, Faculty of Engineering
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Amin Karimi was born in Dehgolan, Iran (1981). He received the B.Sc. degree from Isfahan Educational and Research Complex, Isfahan, Iran in Control and Instrument Engineering in 2005, the M.Sc. degree from Razi University, Kermanshah, Iran in Electronic Engineering in 2009, and the Ph.D degree in the control of power systems at the University of Kurdistan, Iran in 2019. Since 2011, he has been with the Faculty of Engineering, Islamic Azad University, Sanandaj, Iran. He is currently a member of the Smart/Micro Grids Research Center (SMGRC) at the University of Kurdistan, Sanandaj, Iran. His research interests include modeling, analysis, design, and control of power electronic devices; energy storage systems; renewable energy sources; Robust and intelligence Control; integration of distributed generation systems; microgrid and smart grid application.

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Permanent Address Sadi27 bldg, floor2, Shahid Jamil Shamsavari Blvd, Sanandaj, Kurdistan, Iran.

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Faculty of Engineering Department of Electrical Engineering.
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Education

	PhD: Electrical Engineering, Control of Power Systems
2013 -2019	University of Kurdistan, Sanandaj, Iran Adviser: Prof. Hassan Bevrani Thesis: Effective Solution for Production of Virtual Inertia to Improve Frequency–Voltage Control in Electric Microgrids GPA: 18.77/20
	Master of Science: Electrical Engineering, Electronics
2012 - 2014	Razi University, Kermanshah, Iran Adviser: Dr. Mohsen Hayati Thesis: Estimation of Nonlinear Systems Behavior by Fuzzy Method GPA: 18.23/20
	Bachelor of Science: Electrical Engineering, Power
2007 - 2012	Isfahan Educational and Research Complex, Isfahan, Iran. Adviser: Dr. Sobhi Baniardalani Thesis: Fuzzy Controller Design for an Electromagnetic lift

	GPA: 17.57/20
1995 - 1999	High school Diploma of Mathematics and Physics
	Sheikh Shaltout State Model High School, Sanandaj, Iran GPA: 17.50/20

Research Interests

- Modeling, Analysis, Design, and Control of Power Electronic Devices
- Modeling, Analysis, Design, and Control of Energy Storage Systems
- Modeling, Analysis, Design, and Control of Renewable Energy Sources
- Integration of Distributed Generation Systems
- Microgrid and Smart Grid Application
- Robust and Intelligent Control
- Dynamic of Microgrids, Virtual Inertia

Publications:

- [1] **Karimi, Amin, et al.** "Inertia response improvement in AC microgrids: A fuzzy-based virtual synchronous generator control." *IEEE Transactions on Power Electronics* 35.4 (2019): 4321-4331.
- [2] **Karimi, Amin, et al.** "Frequency response improvement in microgrids: a fuzzy-based virtual synchronous generator approach." *International Journal of Industrial Electronics Control and Optimization* 3.2 (2020): 147-158.
- [3] **Karimi, A.,** Khayat, Y., Naderi, M., Mirzaee, R., & Bevrani, H. (2017, December). Improving transient performance of VSG based microgrids by virtual FACTS'functions. In 2017 Smart Grid Conference (SGC) (pp. 1-6). IEEE.
- [4] **Jafarian, Yousefreza, Amin Karimi,** and Hassan Bevrani. "Secondary Voltage Control in a Hybrid Microgrid." *International Journal of Industrial Electronics Control and Optimization* 2.3 (2019): 221-232.
- [5] **Moghadami, Arash, Davood Azizian, and Amin Karimi.** "Incorporating demand response effect on transformer replacement planning." *Electric Power Systems Research* 213 (2022): 108714.
- [6] Mohammad Ghomi, **Amin Karimi.** "Intelligent control of water with remote reading capability." *National Conference of Energy & Electrical Engineering, Yazd, Iran,* 2010. (in Persian)
- [7] **Amin Karimi, Haidar Rahmanzadeh.** "Control and modeling of a robotic arm for rehabilitation." The International Conference in New Research of Electrical and Computer Science, COMCONF15-05990305, 2015. (in Persian)
- [8] **Amin Karimi, Morteza Alizadeh.** "Direct control of solar pump torque using Sigma-type DC / DC impedance converter and three-phase inverter." The Second National Conference on New Research in Electrical and Computer Engineering, ISC 96170-20601, 2017. (in Persian)

- [9] **Reza Ghasemi, Amin Karimi.** " Stability analysis of fuzzy controller with the presence of distributed generators with interface converters in island performance." *National Conference on New Research in Engineering, Sciences*, Tehran, Iran, CE-0467, 2018. (in Persian)
- [10] **Reza Ghasemi, Amin Karimi.** "Optimal design of distributed generation control system in island performance for balanced and unbalanced loads to improve power quality." *National Conference on New Research in Engineering, Sciences*, Tehran, Iran, CE-0466, 2018.
- [11] **Eslam Yadegar, Amin Karimi.** " Control of reactive power sharing in a microgrid using a virtual capacitor algorithm." *3th National Conference on Technology in Electrical and Computer Engineering*, 2014. (in Persian)
- [12] **Virtual Synchronous Generator Modeling and Improve the Transient Frequency, Transaction industrial electronic, Submitted**

Job Experience

Academic Staff, Islamic Azad University of Sanandaj, Kurdistan, Iran, *2010-present*

Director of Industry Relations of Islamic Azad University of Sanandaj, Kurdistan, Iran, *2019-2021*

Director of Electrical Engineering Department of Islamic Azad University of Sanandaj, Kurdistan, Iran, *2020-present*

Director of Electrical Engineering Department of Sama College of Sanandaj, , Kurdistan, Iran, *2017-2019*

Referee of six national robotics free competitions, Azad University of Sanandaj, , Kurdistan, Iran, 2011-2017

Judge of the first international festival of the Iranian Grand Prize for Inventions, Tehran, 2016

Lecturer, University of Kurdistan, Sanandaj, Kurdistan, Iran, 2013-2014

Lecturer of Technical and Vocational University Yazdanpanah, sanandaj, Kurdistan, Iran, *2010-2019*

Lecturer, Payame Noor University of Sanandaj, Kurdistan, Iran, 2008-2019

Lecturer, Sama College of Sanandaj, Sanandaj, Kurdistan, Iran, 2010-2019

Lecturer of Technical and Vocational University Kasra, Kermanshah, Kermanshah, Iran, *2008-2010*

Lecturer, Islamic Azad University of Tuiserkan, Hamedan, Iran, 2008-2010

Teaching Experience

- Industrial Electronics
- Power Electronics 1
- Power Electronics 2
- Smart and Micro-grids
- Linear and Nonlinear Programming
- Linear and Modern Control Systems
- Robust Control
- Fuzzy and Neural Control

Computer Skills

Electrical Engineering Software

- MATLAB
- MATLAB (SIMULINK)
- PSCAD
- ETAP
- DIALux,
- PSpice
- HOMER

General Skills

- Microsoft Office
- Adobe Photoshop
- Auto CAD