Naser Padar









Education

M.Sc. Industrial Automation Engineering

Amirkabir University of Technology Ranked 127 in engineering by US News University Rankings

Thesis: Modeling and Fuzzy Predictive Voltage Control of VSC-Based Microgrids (GPA: 3.72/4)

Supervisors: Dr. Amir Abolfazl Suratgar and Professor Mohammad Bagher Menhaj

iii 2016 - 2019

Advisor: Professor Gevork Gharehpetian

♀ Tehran, Iran

B.Sc. Electrical Power Engineering

Urmia University

Ranked 619 in engineering by US News University Rankings

Thesis: Harmonic Distortion Reduction of Cascaded Multilevel Inverters Using Genetic Algorithm

iii 2010 − 2016 • Urmia, Iran

Supervisor: Professor Daryoush Nazarpour

Working Experiences

Teaching

Mathematics

Self Employed Private Tutor

I provided math tutoring to undergraduate and high school students since 2017. I continued this after my graduation in 2019 until 2023. *Calculus, probability,* and *statistics* were among the subjects I taught.

iii 2017 – 2023

▼ Tehran, Iran▼ Urmia, Iran

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Teaching

Electrical Circuits

Self Employed Private Tutor

I tutored electrical circuits during my BSc. years.

iii 2014 − 2015 • Urmia, Iran

Research Interests

Control Theory

- Nonlinear control: sliding-mode control, super-twisting algorithm, higher-order SMC
- Stability analysis: finite-time and fixed-time stability
- Model predictive control: Traditional and Laguerre function based MPC
- Fuzzy control
- Microgrids: dynamical modeling, primary control, secondary control
- Systems
- Distributed generation (DG): inverter interfaced DG units, droop control, virtual inertia
- Inverters: controller design for grid-forming inverters

Publications

Journal Papers

 Robust super-twisting current controller for LC-filtered grid-forming inverters with actuator faults and disturbances Minor Revision

Naser Padar, Iman Talebian, Mohammad Javad Mirzaei, Mohamed Assaad Hamida, Amir Abolfazl Suratgar Electric Power Components and Systems

 Continuous robust controller with fixed convergence time for synchronization of perturbed nonlinear transducers

2024

Naser Padar, Mostafa Asadollahi, Mohammad Javad Mirzaei and Amir Abolfazl Suratgar Journal of Vibration and Control

■ Fixed-time terminal sliding mode control with arbitrary convergence time for a class of chaotic systems applied to a nonlinear finance model

2023

Mostafa Asadollahi, **Naser Padar**, Amin Fathollahzadeh, Mohammad Javad Mirzaei, Ehsan Aslmostafa International Journal of Dynamics and Control

•	Fast fixed-time sliding mode control of a bistable dual-stage vibration isolator with disturbances Shitong Fang, Naser Padar , Mohammad Javad Mirzaei, Keyu Chen, Zhihui Lai Nonlinear Dynamics	2023	
•	Disturbance rejection and performance enhancement of perturbed tri-stable energy harvesters by adaptive finite-time disturbance observer Shitong Fang, Naser Padar, Mohammad Javad Mirzaei, Shengxi Zhou, Wei-Hsin Liao Acta Mechanica Sinica	2022	
	Fast fixed-time sliding mode control for synchronization of chaotic systems with unmodeled dynamics and disturbance; applied to memristor-based oscillator Mohammad Javad Mirzaei, Ehsan Aslmostafa, Mostafa Asadollahi, Naser Padar Journal of Vibration and Control	2022	
•	Fast finite-time control for tracking problem of perturbed nonlinear systems based on super-twisting disturbance observer Naser Padar	In Progress	
Conference Papers			
•	Decentralized Robust Fixed-Time Secondary Voltage Control of AC Microgrids Naser Padar, Amin Fathollahzadeh, Mohammad Javad Mirzaei 2023 13th Smart Grid Conference (SGC 2023)	2023	
•	Adaptive TSK Fuzzy Terminal Sliding-Mode Control of Two Coupled Cart-Mounted Inverted Pendulums Naser Padar, Mohammad Javad Mirzaei, Amir Abolfazl Suratgar 2022 9th Iranian Joint Congress on Fuzzy and Intelligent Systems (CFIS 2022)	2022	
•	Modeling and Fuzzy Predictive Voltage Control of VSC-Based Microgrids Naser Padar, Amir Abolfazl Suratgar, Mohammad Bagher Menhaj 2021 11th Smart Grid Conference (SGC 2021)	2021	
•	Study of a Reliable Buck Topology for High Step-down DC-DC Conversion Iman Talebian, Naser Padar, Ebrahim Babaei, Vafa Marzang 2024 15th Annual Power Electronics, Drive Systems and Technologies Conference (PEDSTC 2024)	2024	
•	Robust fixed-time sliding-mode current controller for LC-filtered grid-forming inverters with disturbances Naser Padar	To be Submitted	
Conducted Workshops			
•	Voltage and Frequency Control of Islanded AC Microgrids: Fundamental Theories Toward Simulation using MATLAB/Simulink Naser Padar Organized by Distributed Intelligent Optimization Research Lab of Amirkabir University of Technology	2021	

Software and Practical Skills

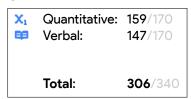
Softwares & Programming Languages

MATLAB/Simulink, Proteus, DIgSILENT, Altium Designer, DIALux, LaTeX, C/C++, Git

Hardware AVR, Arduino

Test Scores and Languages

GRE



TOEFL

	Reading:	26 /30
•	Listening:	28 /30
•	Speaking:	26 /30
5	Writing:	24/30
	Total:	104 /120



Experimental Projects

- DC-DC buck converter control using Arduino Duo
- DC motor speed control using AVR
- Temperature control using Arduino Mega

Honors

■ Ranked 179th in the national university entrance exam (among 25'000 participants)

2016

Attended MOOCs and Workshops

- Why an Active Grid Demands Greater Collaboration
- NERC PRC-027 Compliance: Impact on Utilities
 Short-Circuit Modeling and Protective Relay Coordination
 Studies

IEEE Smart Grid Webinar

2017 2017

IEEE Smart Grid Webinar

References

Dr. Amir Abolfazl Suratgar

a-suratgar@aut.ac.ir Electrical Engineering Deptartment Amirkabir University of Technology Tehran, Iran

Dr. Mohamed Assaad Hamida

mohamed.hamida@ec-nantes.fr Ecole Centrale de Nantes Nantes Université Nantes, France

Dr. Daryoush Nazarpour

d.nazarpour@urmia.ac.ir Electrical Engineering Deptartment Urmia University Urmia, Iran