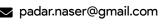
Naser Padar



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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

Electrical Power Engineering B.Sc.

Urmia University

Ranked 619 in engineering by US News University Rankings

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

i 2010 − 2016

Supervisor: Professor Daryoush Nazarpour

Urmia, Iran

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.

Tehran, Iran

Q Urmia. Iran

Teaching Electrical Circuits

Self Employed Private Tutor

I tutored electrical circuits during my BSc. years.

ii 2014 - 2015

iii Dec. 06, 2023

iii Mar. 13, 2024

Urmia, Iran

Test Scores and Languages

GRE

Quantitative: 159/170 X_1 Verbal: 147/170

Total:

306/340

TOEFL

Reading: 26/30 28/30 Listening: Speaking: 26/30 Writing: 24/30

Total:

104/120

English

Azerbaijani

Farsi

TOEFL Test Date:

GRE Test Date:

Turkish

Publications



Papers

Fast finite-time control for tracking problem of perturbed nonlinear systems based on super-twisting disturbance observer

Progress

Naser Padar

 Robust fixed-time sliding-mode current controller for LC-filtered grid-forming inverters with disturbances Naser Padar, Mohammad Javad Mirzaei, Amir Abolfazl Suratgar 2024 10th International Conference on Control, Instrumentation and Automation (ICCIA 2024)

Submitted

 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

2024

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

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

	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
•	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
•	Fixed-time terminal sliding mode control with arbitrary convergence time for a class of chaotic systems applied to a nonlinear finance model Mostafa Asadollahi, Naser Padar, Amin Fathollahzadeh, Mohammad Javad Mirzaei, Ehsan Aslmostafa International Journal of Dynamics and Control	2023
•	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
•	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
	Conducted Workshops	
•	Voltage and Frequency Control of Islanded AC Microgrids: Fundamental Theories Toward Simulation using MATLAB/Simulink Naser Padar	2021
	Organized by Distributed Intelligent Optimization Research Lab of Amirkabir University of Technology	

Research Interests

Control Theory

Systems

- 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
- - Distributed generation (DG): inverter interfaced DG units, droop control, virtual inertia
 - Inverters: controller design for grid-forming inverters

Software and Practical Skills

Softwares & Programming Languages

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

Hardware AVR, Arduino

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