

Iman Nodozi

Graduate Research Assistant	E-mail:	inodozi@ucsc.edu
University of California, Santa Cruz (UCSC),	Google Scholar:	Here.
Department of Electrical and Computer Engineering	Website:	https://inodozi.github.io

Research Interests

Broad area

Machine learning, artificial intelligence, control, dynamical systems, optimization, and hybrid systems

Theory focus

- Data distribution
- Learning theory
- Density control
- Statistics
- Stochastic uncertainty propagation and nonlinear estimation
- Convex and non-convex optimization
- Bayesian inference
- MPC
- PINN

Professional Software and Skills

Programming Language

Python, Matlab, HTML, Programmable logic controller (PLC), C++

Framework

TensorFlow, PyTorch, Keras, DeepXDE, PYMC3

Education

Ph.D.

ECE, University of California, Santa Cruz (UCSC), California, USA. (2019-Now)

Master of Science (M.Sc.)

ECE, University of California, Santa Cruz (UCSC), California, USA. (2019-2021)
Master of Science, Electrical Engineering

Master of Science (M.Sc.)

Imam Khomeini International University (IKIU), Qazvin, Iran.(2013-2016)
Master of Science, Electrical Engineering, Control

Bachelor of Science (B.Sc.)

Hamedan University of Technology, Hamedan, Iran. (2008-2013)
Bachelor of Science, Electrical Engineering, Control

Dissertation

Ph.D. Project: “Measure-valued Proximal Recursions for Learning and Control.”

	M.Sc. Thesis: “Nonlinear Hybrid Systems Control via Linear Matrix Inequalities.”
Academic Experience	<p>Guest Instructor for Nonlinear Control Theory, Spring 2022, UCSC.</p> <p>Teaching Assistant for Signals and Systems, Spring 2021, UCSC.</p> <p>Teaching Assistant for Analog Electronics, Winter 2020, UCSC.</p> <p>Teaching Assistant for Robot Automation, Fall 2020, UCSC.</p> <p>Teaching Assistant for Linear Control Course, Fall 2014, IKIU.</p>
Award	Regents Fellowships, University of California, Santa Cruz, 2019.
Reviewer Service	<p>Conference</p> <p>American Control Conference (ACC 2022)(1)</p> <p>Conference on Decision and Control (CDC 2022) (5)</p> <p>International Conference on Machine Learning (ICML 2022)(5)</p> <p>Mathematical Theory of Networks and Systems (MTNS 2022)(1)</p> <p>Journal</p> <p>Nonlinear Analysis: Hybrid Systems (1)</p>
Publication	<p>Iman Nodozi, Abhishek Halder, and Ali Mesbah. “Neural Schrödinger Bridge for Minimum Effort Density Control: An Application to Colloidal Self Assembly.” in progress.</p> <p>Iman Nodozi, and Abhishek Halder. “Wasserstein Consensus ADMM.” in progress.</p> <p>Alexis Teter, Iman Nodozi, Shadi Hadad, and Abhishek Halder. “Computational mean field learning .” in progress.</p> <p>Iman Nodozi, and Ricardo Sanfelice. “A Mixed Integer Approach for the Solution of Hybrid Model Predictive Control Problems.” Accepted in CDC 2022. Online paper: here.</p> <p>Iman Nodozi, and Abhishek Halder. “Schrödinger Meets Kuramoto via Feynman-Kac: Minimum Effort Distribution Steering for Noisy Nonuniform Kuramoto Oscillators.” Accepted in CDC 2022. Online paper: here.</p> <p>Iman Nodozi, and Abhishek Halder. “A Distributed Algorithm for Measure-valued Optimization with Additive Objective.” accepted in MTNS 2022. Online paper: here.</p> <p>Iman Nodozi, and Mehdi Rahmani. “LMI-based mixed-integer model predictive control for Hybrid systems.” International Journal of Control (2020): 2336-2345. Online paper: here.</p>

Industrial Experience

Iman Nodozi, and Mehdi Rahmani. “LMI-based model predictive control for switched nonlinear systems”. Journal of Process Control” 59 (2017) 49-58. Online paper: [here](#).

Mehdi Rahmani, and **Iman Nodozi**. “Phase-locked loops redesign by the Lyapunov theory.” Electronics Letters 51.21 (2015): 1664-1666. Online paper: [here](#).

Electrical Engineer at SOKHT AMA co: (2016-2018)

Aluminum Die Cast machine:

Project manager and engineer for reconstruction and automation of Russian Die Cast machine: 400, 250, and 160 tons.

Auxiliary equipment of Aluminum Die Cast machine:

Project manager and engineer for reconstruction and automation of Die Cast lube spraying system for Agrati 1200 tons, Idra 1100 and 320 tons, and Ardi 420 tons Die Cast. You can find a video of these spraying systems that added to Agrati 1200 tons Die Cast [here](#). (SOKHT AMA.co 2016 and 2017)

Project manager and engineer for reconstruction and automation of Die Cast ladle systems for Buhler 400 tons, Idra 1100, 320 tons Die Cast. You can find a video of these Ladle systems that added to Buhler 400 tons Die Cast [here](#). (SOKHT AMA.co 2016 and 2017)

Project manager and engineer for designing of shot monitoring system for Ardi 420 tons Die Cast. (SOKHT AMA.co 2017)

Industrial Test Machine:

Project manager and engineer for designing, constructing of leakage test machine for oil support and water pump of tu5, tu3, and xu7 engine of Peugeot cars manufactured by Iran Khodro.co . (SOKHT AMA.co 2016 and 2017)

Project manager and engineer for designing, constructing of performance test machine for oil pump of tu5 engine Peugeot cars manufactured by Iran Khodro.co. (SOKHT AMA.co 2017) You can find the video of this testing machine [here](#).

Industrial course:

Academy of DQS excellence Certification of training Course for Requirements of ISO/TS 16949:2009 and IATF 16949:2016 (International Automotive Task Force) courses in winter and fall 2017, respectively, Certificate [here](#).

References

Abhishek Halder

Assistant Professor of Department of Applied Mathematics,
University of California, Santa Cruz (UCSC)
ahalder@ucsc.edu

Ricardo Sanfelice

Professor of Department of Electrical and, Computer Engineering,
University of California, Santa Cruz (UCSC) ,
ricardo@ucsc.edu

Mehdi Rahmani

Assistant Professor of Department of Electrical Engineering,
Imam-Khomeini International University,
mrahmani@eng.ikiu.ac.ir