Farshad Rahimi

PERSONAL DETAILS

Name	Farshad Rahimi
Phone	(+98) 910-1408103
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Profile	Google_Scholar_Profile
M-Status	Single

EDUCATION

Sahand University of Technology, Tabriz, Iran. 2015- 2018

M.Sc. Electrical Engineering with specialization in control systems

Thesis: Predictive controller design for networked mobile robots.

Hamedan University of Technology, Iran. 2010- 2015

B.Sc. Robotic Engineering

Final Project: Control of 2-DOF underwater planar manipulator.

PUBLICATION

Journals

1. **Rahimi, F.**, and H. Rezaei. "A Distributed Fault Estimation Approach for a Class of Continuous-time Nonlinear Networked Systems Subject to Communication Delays.", IEEE Control Systems Letters, 6 (2021): 295-300.
DOI: https://ieeexplore.ieee.org/abstract/document/9397783

2. **Rahimi, F.**, and H. Rezaei. "An event-triggered recursive state estimation approach for time-varying nonlinear complex networks with quantization effects.", Neurocomputing 426 (2021): 104-113.
DOI: https://www.sciencedirect.com/science/article/abs/pii/S0925231220316088

3. **Rahimi. F.**, Sh. Ahmadpour, "Neighborhood-Based Distributed Robust Unknown Input Observer for Fault Estimation in Nonlinear Networked Systems View Submission.", IET Control Theory and Applications.
DOI: https://ietresearch.onlinelibrary.wiley.com/doi/full/10.1049/cth2.12278.

4. Rezaei, H., Farnam, A., **Rahimi. F,** and Guillaume. C. "A Scalable Distributed State estimation for a Class of State-Saturated Systems Subject to Quantization Effects.", IEEE Access 9 (2021): 138724-138733. DOI: https://ieeexplore.ieee.org/abstract/document/9562519

5. **Rahimi. F.**, Shahi. H., "Neighborhood-Based Event-Triggered Distributed Fault Estimation Observer for Linear Networked Systems.", AUT Journal of Electrical Engineering (AUTJEE), DOI: https://eej.aut.ac.ir/article_4854.html

6. **Rahimi. F,** " A Distributed Optimization Approach for Multi-Agent Systems over Delaying Networks.", International Journal of Information and Communication Technology Research 2021 Vol. 13 Issue 4 Pages 8-27. DOI: http://ijict.itrc.ac.ir/article-1-495-en.html

7. **Rahimi. F.**"Distributed optimization problem with communication delays for heterogeneous linear multi-agent systems, International Journal of Systems Science, (Under Review), DOI: https://doi.org/10.48550/arXiv.2208.10549

8. **Rahimi. F.**, Ziaee. S. ,"Reinforcement learning-based optimized control for tracking of nonlinear systems with adversarial attacks, DOI: https://arxiv.org/abs/2209.02165 .

Conferences

1. **Rahimi, F.**, and Reza Mahboobi Esfanjani. "Distributed predictive control for formation of networked mobile robots." 2018 6th RSI International Conference on Robotics and Mechatronics (IcRoM). IEEE, 2018. (Distinguished paper and invited to an extended version). DOI: https://ieeexplore.ieee.org/abstract/document/8657625

2. **Rahimi, F.**, and Reza Mahboobi Esfanjani. "A Distributed Dual Decomposition Optimization Approach for Coordination of Mobile Networked Robots with Communication Delay." 2021 9th RSI International Conference on Robotics and Mechatronics (IcRoM). IEEE, 2021. DOI: https://ieeexplore.ieee.org/abstract/document/9663474

3. **Rahimi, F.**. "Distributed Control for Nonlinear Multi-Agent Systems Subject to Communication Delays and Cyber-Attacks: Applied to One-Link Manipulators." 2021 9th RSI International Conference on Robotics and Mechatronics (IcRoM). IEEE, 2021. DOI: https://ieeexplore.ieee.org/abstract/document/9663446

Completing-works

1_ A distributed optimal controller for DC-isolated microgrids powered by renewable energy sources with switching communication topology.
2_An unknown input method-based distributed fault estimation for interconnect heterogeneous multi-agent systems.

MY RESEARCH INTERESTS

The primary focus of my current research is on multi-agent systems, specifically considering the reliability and the sustainability of the controller during the data exchange among agents. My main research interests are safety RL, and distributed optimization in multi-agent systems.

REVIEWER AND CURRENT RESEARCH INTERESTS

Reviewer Experience	Documented in my Publons profile ID: ABA-1505-2020. Link. IEEE Transactions on Systems, Man and Cybernetics. International Journal of Robust and Nonlinear Control. IEEE Control Systems Letters (L-CSS).
Current Research Interests	Learning in Multi-Agent Systems; Cyber-Attacks Distributed Reinforcement Learning; Distributed Optimization.
Current Researches	Safety Learning approaches using learning-based control Identification for nonlinear system by learning

WORKING AND TEACHING EXPERIENCE

Instructor 2019-Present
Teaching: Matlab, LaTex. Online Courses

Independent researcher 2020-Present

Laboratory of Modern Control Systems 2020-2022
Sahand University.

Teaching Assistant 2016-2019
Course: Adaptive Control at Sahand University of Technology.
Course: Optimal Control at Sahand University of Technology.

EXTRA COURSES TAKEN

Course: Diagnosis and Fault-Tolerant Control at Sahand University of Technology, Grade Achieved : 19.91/20.
Course: Model Predictive Control at Sahand University of Technology, Grade Achieved : 19.25/20.
Online Course: Control of Mobile Robots, https://www.coursera.org/learn/mobile-robot.
Online Course: Autonomous Navigation for Flying Robots, https://www.edx.org.
Online Course: Introduction to Programming Using Python, https://www.edx.org.

SKILLS

Software	MATLAB
	Webots, LaTeX, SolidWorks, V-Rep, Python.
Languages	ENGLISH(PROFESSIONAL WORKING), PERSIAN, KURDISH

REFERENCES

1. Dr. Hossein Rezaei. Department of Electrical Engineering Sahand University of Technology, Tabriz, Iran. Email: `h_rezaei@sut.ac.ir`.

2. Dr. Arash Farnam. Department of Electrical Energy, Systems and Automation, Gent, Belgium. Email: `Arash.Farnam@UGent.be`.