Reza NajarzadehMehdikhani

Teacher Assistant & Researcher

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Summary

Reza is an experienced engineer specializing in mathematical modeling, data science, and optimization methods for biomedical systems. He has a proven track record in collaborative research and interdisciplinary projects, particularly in the dynamics of COVID-19 spread. Reza is a strong communicator with experience as a teaching assistant. He is eager to transition to academia as a professor to bridge the gap between engineering and health systems.

Education

M.Sc. in Electrical Engineering Sep. 2019 - Sep. 2022

(School of Electrical and Computer Engineering), Shiraz University, Shiraz, Iran.

- *Thesis Title: "COVID-19 Modeling and Designing a Robust controller to control the disease spread (20/20)"*

B.Sc. in Electrical Engineering Sep. 2015- July. 2019

(School of Electrical Engineering), Ahwaz University of Technology, Ahwaz, Iran

Academic Experiences

Research Assistant (Part-time) Nov. 2020 - Present

- Epidemic Modeling and Analysis
- Uncertain System Modeling
- Data collecting, data processing
- Scientific writing
- Safety in Autonomous Driving

Duties include: conducting literature reviews, collecting and analyzing data, assisting in labs, drafting research proposals, contributing to research publications, collaborating with team members on research projects and idea-sharing sessions, and assisting supervisors in assigning thesis subjects to students.

Teaching Assistant (Part-time) Sep. 2020 - Present

- Linear Matrix Inequalities and applications
- Robust Control Systems

Duties include: assigning and grading homework assignments, assisting with exams, assigning final projects, supervising students, and grading, etc.

Publications

JOURNAL PAPERS:

- **R. Najarzadeh**, M. Hassan Asemani, M. Dehghani, and M. Shasadeghi, "Multi-Objective T-S Fuzzy Control of Covid-19 Spread Model: An LMI Approach," Biomedical Signal Processing and Control, p. 104107, 2022/08/18 , https://doi.org/10.1016/j.bspc.2022.104107 .
- **R. Najarzadeh**, M. Dehghani, M. H. Asemani, and R. Abolpour, "Optimal Robust LPV Control Design for Novel Covid-19 Disease" (in eng), Journal of Control, Special issue vol. 14, no. 5, pp. 141-153, 2021 , https://doi.org/10.52547/joc.14.5.141 .

CONFERENCE PAPERS:

- **R. Najarzadeh**, M. Dehghani, M. H. Asemani, and A. Afsharinejad, "LPV Control of an Influenza Model with Vaccination and Antiviral Treatment," in 2021 7th International Conference on Control, Instrumentation and Automation (ICCIA), 2021, pp. 1-5: IEEE , https://doi.org/10.1109/ICCIA52082.2021.9403611.
- A. Karimzadeh, M. Dehghani, M. H. Asemani, and **R. Najarzadeh**, "Data-Driven Controller Design for a Synchronous Generator Connected to an Infinite Bus," in 2022 8th International Conference on Control, Instrumentation and Automation (ICCIA), 2022, pp. 1-5: IEEE , https://doi.org/10.1109/ICCIA54998.2022.9737178

Research Interests

- Data Science
- Robustness Analysis of Epidemic Disease Models
- Applications of Machine Learning in Biomedical Systems
- Mathematical Modeling of Uncertain Systems
- Epidemics Modeling and Control
- T-S Fuzzy/LPV Modeling

Achievements

Best paper award of 7th International Conference on Control, Instrumentation and Automation (ICCIA) for the paper “LPV Control of an Influenza Model with Vaccination and Antiviral Treatment”, 2021, Tabriz, Iran May. 2021

Computer Skills

- SPSS
- Python
- C#
- MATLAB and SIMULINK
- Adobe Software
- Microsoft Office

Language

- English: Fluent
- Persian: Native

References

Prof. Maryam Dehghani

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Prof. Mohammad Hassan Asemani

Professor of Electrical Engineering, School of Electrical and Computer Engineering, Shiraz University, Shiraz, Iran,

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Prof. Mokhtar Shasadeghi

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