Curriculum Vitae/Resume
ENAYAT AMIRI
Prospective Ph.D. Student

Tehran, Iran | Phone: +989162841590 | Email: Enayat.amiri1377@gmail.com

EDUCATION

Sharif University of Technology, Tehran, Iran Sep. 2021 - Jan. 2024
M.Sc., Department of Electrical Engineering.
Thesis: "Scheduling Traffic Lights by Secure Computation", supervised by Dr. Mohammad Haeri.

- **Coursework:** Advanced Engineering Mathematics, System Identification, Multivariable Control, Model Predictive Control, Adaptive Control, Nonlinear Control.

Isfahan University of Technology, Isfahan, Iran Sep. 2016 - Aug. 2020
B.Sc., Department of Electrical Engineering.

- **Thesis:** "Detection and Diagnosis of Gastric Cancer from Endoscopic Images", supervised by Dr. Farzaneh Shayegh.
- **Coursework:** Digital Control, Modern Control Systems, Special topics in control, Instrumentation, Telecommunication Circuits, Microprocessor, FPGA.

RESEARCH INTERESTS

- Cyber-Physical Systems, Control of traffic signals, Multi-agent systems, Intelligent Transportation Systems, Connected and Automated Vehicles, Nonlinear and Adaptive Control.

RESEARCH EXPERIENCE

System Identification (M.Sc. Course Project) (Instructor: Dr. Mohammad Haeri)

- Conducted nonparametric system identification using ETFE, Mean ETFE and SPA methods.
- Simulated parametric system identification using LS, IV, RLS, RIV, RML, RPLR, and Gauss-Newton methods; identified the optimal method for the dataset.

Model Predictive Control (M.Sc. Course Project) (Instructor: Dr. Mohammad Haeri)

- Linearized the equations of a bilinear motor system around the operating point. Designed a PFC controller with equal and unequal matching points for the linear and nonlinear systems. Investigated the effects of various disturbances.
- Designed and implemented an EPFC controller for a bilinear motor system, incorporating both equal and unequal matching points. Analyzed the impacts of disturbances, output noise, control parameters, cost function weights, and uncertainties on system performance.

Adaptive Control (M.Sc. Course Project) (Instructor: Dr. Mohammad Saleh Tavazoei)

- Adaptive Feedforward Neural Network Control with an Optimized Hidden Node Distribution.

Nonlinear Control (M.Sc. Course Project) (Instructor: Dr. Maryam Babazadeh)

- Simulated a model-free controller for nonlinear underactuated systems with uncertainties and disturbances using an extended state observer-based chattering-free sliding mode control.

Robust Control (B.Sc. Course Project)) (Instructor: Dr. Amin Rezaeizadeh)

- Robust H-infinity Control Applied to Continuous Stirred Tank Reactor (CSTR). Using μ analysis and synthesis

Field Programmable Gate Array Course (B.Sc. Course Project)) (Instructor: Dr. Ehsan Yazdian)

- Implementation of Tunable Function Generator Waves and D-to-A Converter Using FPGA.
- Monitoring Output on VGA Using FFT and Microblaze Core.

Digital Signal Processing Course (B.Sc. Course Project)) (Instructor: Dr. Behzad Nazari)

- The Effect of Quantization Error on Coefficients in Direct, and Cascade-Based Filters

PUBLICATIONS

E. Amiri, M. Haeri, and S. Adelipour, Secret sharing implementation of predictive functional control, The 31th Iranian Conference of Electrical Engineering, Amirkabir University of Technology, Tehran, Iran, pp. 437-441, 9-11 May 2023. (accepted)

Saeed Adelipour, Enayatollah Amiri, and Mohammad Haeri. " Vulnerability Mitigation of Urban Traffic Control against Cyberattacks Using Secure Multi-Party Computation." IEEE Transactions on Intelligent Transportation Systems (2024). (accepted)

TEACHING EXPERIENCE

(Department of Electrical Engineering, Sharif University of Technology, Tehran, Iran)

Teaching Assistant,

- ***"Digital Control Systems"**, Supervisor: Dr. Haeri* Fall 2021
- ***"Linear Control Systems"**, Supervisor: Dr. Haeri* Spring 2021
- ***"Digital Control Systems"**, Supervisor: Dr. Haeri* Fall 2022

Developed and delivered lectures, designed homework and problem sets, provided simulation and coding tutorials, supported student projects, administered quizzes, assisted with course materials, and graded assignments.

Lab Instructor/ Member & Research Assistant,

- ***"Control Laboratory",** Supervisor: Dr. Ahi* Spring 2024
- ***"Control Laboratory",** Supervisor: Dr. Ahi* summer 2023
- ***"Digital Control Laboratory."**, Supervisor: Dr. Hosseini Tehrani* Fall 2023

Contributed to designing experiments, supported team projects, assisted students with experimental tests, and evaluated reports.

Tutor

- Circuit Theory, MATLAB. (Isfahan University of Technology) (2017 - 2019)
- Mathematics for high school students. (2023 - 2024)

HONORS AND AWARDS

- **Ranked 58th Among More Than 15,000 Participants in the Nationwide University Entrance Exam for Master of Science in Electrical Engineering** (2021): Accepted into the electrical engineering department at Sharif university of technology (the best university in Iran).
- **Ranked Among the Top 1% of the Nationwide University Entrance Exam Out of ~160,000 Applicants** (2016): Accepted into the electrical engineering department at Isfahan University of Technology.
- **Graduated from High School with Honors as the Top Student** (2016): **GPA:** 4.00/4.00

SKILLS

- **Research Skills:** Control of traffic signals, Cyber-Physical Systems, Control Theory, Model Predictive Control, Adaptive and Nonlinear Control.
- **Programming Language:** MATLAB, Python, C++, AVR Microcontrollers.
- **Simulation:** Simulink, PSpice, CARLA Simulator.
- **Libraries and Packages:** NumPy, Pandas, Matplotlib

REFERENCES

Dr. Mohammad Haeri
Professor
Electrical Engineering Department
Sharif University of Technology
haeri@sharif.ir

Dr. Saeed Adelipour
Research Associate
Electrical Engineering Department
Sharif University of Technology
s.adelipour@salford.ac.uk