

MohammadAmin Moradi

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Education

- **Iran University of Science and Technology** TEHRAN, IRAN
M.Sc. in Electrical Engineering - Control Systems, GPA: 18.30/20 (4.0/4.0) 2018 - expected 2020
 - Research: Reinforcement Learning Methods in Control Systems
 - Supervisor: **Dr. Saeed Shamaghdari**
 - Currently studying Master's degree in IUST (Iran's third best university). Holding a year of research and experience with focus on Reinforcement Learning and its possible applications in Control Systems Engineering. Ranked 4th among students of Control Systems Engineering-2018 intake. Working on several state-of-the-art projects, considered to be published in high ranking journals.
- **University of Tehran** TEHRAN, IRAN
B.Sc. in Electrical Engineering - Control Systems 2012 - 2017
 - Thesis: Blood Pressure System : Modeling and Control (Theory)
 - Supervisor: **Dr. Turaj Abbasiyan NajafAbadi**
 - Graduated from UT (Iran's second best university) with a Bachelor of Science in Electrical Engineering. Held various studies, experiences, and internships focusing on Control Systems. Gained a deep understanding and hands-on skills for coding (e.g., C++ and Matlab) and numerical modeling. Served on several university and fraternal committees.
- **Shahid-Beheshti High school** ZANJAN, IRAN
High school and pre-university education 2008 - 2012
 - An eminent high school managed by National Organization for Development of Exceptional Talents

Honors and Awards

- 2019 : Ranked **4th** among 39 Control Systems Engineering students, Iran University of Science and Technology
- 2016 : Awarded as the best **Editor and corrector** in mathematic field in two of the greatest publication centers in Iran (Kanoon and Gaj)
- 2015 : **2nd Team Rank, Game Over Competition:** Programming a game in under 2 hours competition, Department of Electrical and Computer Engineering, University of Tehran
- 2011 : Awarded **full scholarship** to study at the University of Tehran for Undergraduate Program
- 2011 : Ranked **163rd** among more than 480,000 participants in the Nationwide Universities Entrance Exam (Konkooor) in mathematical sciences field for Undergraduate Program
- 2010 : Semifinalist of the national **Physics Olympiad**
- 2010 : Semifinalist of the national **Mathematics Olympiad**
- 2010 : Semifinalist of the national **Computer Science Olympiad**
- 2008 : Admitted to Shahid-Beheshti High school (An eminent high school managed by National Organization for Development of Exceptional Talents)

Research Interests

- Non-Linear Control Systems
- Reinforcement Learning
- Stochastic Approximation
- Mathematical Analysis
- Optimal Control
- Adaptive Control Systems

Publications

1. Shamaghdari S, Razavi S, Moradi M A, "Adaptive Optimal Control of Unknown Discrete-Time Linear Systems with Guaranteed Prescribed Degree of Stability Using Reinforcement Learning", -Submitted

Teaching Assistance

- **Convex Optimization, Dr. Saeed Shamaghdari** Fall '19
Iran University of Science and Technology
- **Fundamentals of Mechatronics Engineering, Dr. Abbassian Najaf Abadi** Fall '16
ECE department - University of Tehran
- **Electric Machines 1, Dr. Javad Faiz** Spring '16
ECE department - University of Tehran
- **Technical Language, Dr. Fatemeh Fatemi** Spring '13, Fall '13, Spring '14, Fall '14, Spring '15
ECE department - University of Tehran
- **Fundamentals of Thermal Systems, Dr. Hassan Sharifi** Spring '15
ECE department - University of Tehran
- **Electronics Laboratory 1, Hourie Khodkari** Fall '14, Spring 15
ECE department - University of Tehran
- **Physics Laboratory 2, Dr. Nayere Majd** Fall '13, Spring '14
University of Tehran
- **Electrical Circuits 1, Dr. Farokh Aminifar** Fall '13
ECE department - University of Tehran

Selected Courses

- **Iran University of Science and Technology** TEHRAN, IRAN
M.Sc. in Electrical Engineering - Control Systems 2018 - expected 2020
 - Non-Linear Control: 18/20
 - Adaptive Control: 18.25/20
 - Model Predictive Control: 19.8/20
 - Convex Optimization: 18.6/20
 - Fuzzy Systems: 16.5/20
 - Artificial Neural Networks: 17/20
 - Advanced Instrumentation: 20/20
- **Online Courses** COURSERA
Mostly about my research interests 2019
 - Machine Learning
 - Deep Learning
 - Reinforcement Learning

Notable Academic Course Projects and Research - available online at : aminmoradi.ir

- **Implementation of various environments under Open AI Gym using RL Algorithms** Spring '19
Iran University of Science and Technology, Advisor : Dr. Saeed Shamaghdari
- **A Non-Linear System Modeling with MLP and RBF Neural Networks** Spring '19
Iran University of Science and Technology, Advisor : Dr. Mohammad Farrokhi
- **mnist Dataset Pattern Recognition Using Hopfield Neural Networks** Spring '19
Iran University of Science and Technology, Advisor : Dr. Mohammad Farrokhi
- **Adaptive Fuzzy Sliding Mode Controller Design for a Benchmark Plant** Spring '19
Iran University of Science and Technology, Advisor : Dr. Esmaeil Khanmirza
- **A Non-Linear System Modeling Using Fuzzy Systems** Fall '18
Iran University of Science and Technology, Advisor : Dr. Mohammad Farrokhi
- **Double Inverted Pendulum Swing Up Control Using Fuzzy Systems** Fall '18
Iran University of Science and Technology, Advisor : Dr. Mohammad Farrokhi
- **Tracking of a Non-Linear Benchmark Plant Using Adaptive Robust Control** Fall '18
Iran University of Science and Technology, Advisor : Dr. Mohammadreza Jahed Motlagh

- **Feedback Linearization Control for a Non-Linear Plant Under Uncertainties** Fall '18
Iran University of Science and Technology, Advisor : Dr. Mohammadreza Jahed Motlagh
 - **Adaptive Robust Sliding Mode Control in the presence of disturbance** Fall '18
Iran University of Science and Technology, Advisor : Dr. Mohammadreza Jahed Motlagh
 - **Pipelined Processor based on MIPS architecture: Design and implementation** Fall '16
ECE department - University of Tehran, Advisor : Dr. Saeed Safari
 - **Designing and implementation of a simple electronic notifier** Spring '16
ECE department - University of Tehran, Advisor : Hourie Khodkari
 - **Designing and implementation of a vending machine on logical circuits, using quartusII** Spring '16
ECE department - University of Tehran, Advisor : Dr. Zain Navvabi
 - **Design and Implementation of a "Barcode Reader"** Spring '16
ECE department - University of Tehran, Advisor : Dr. Omid Fatemi
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Language Skills

- **Turkish:** *Native*
- **Persian:** *Native*
- **English:** *Fluent:*

TOEFL-iBT(2019):102(Reading: 25 , Listening:28 , Speaking:24 , Writing:25)
GRE-General(2019): the test is scheduled on November 11th
Part-time English tutor for kids

- **Deutsche:** *Proficient:*

Currently studying in Goethe Institute in Tehran in A2 level

- **Arabic:** *Familiar:*

High-school knowledge in addition to the similarities with Persian

Computer Skills

- **Mathematical and Engineering Software:**

Open AI Gym, Tensorflow, MATLAB (Lecturer), Simulink, pspice, hspice, Altium Designer (Lecturer), Modelsim, quartusII, PSCAD, Proteus, AVR Studio, Codevision, NS2(for simulating communication networks)

- **Programming Languages:**

C, C++, Csharp, Python, Verilog, Familiar with Java SE, Adroid Studio

- **Instrumentation Software:**

WinCC, Step7 (Siemens), FATEK PLCs : Thanks to my internship, I got familiar with a few examples of industrial softwares which are actually in use in companies

- **Applications and Tools:**

Microsoft Office (Word, Excel, PowerPoint, One Note), Adobe Photoshop, Adobe Premiere Pro CC, L^AT_EX

- **Operating Systems:**

Expert in MacOSx and Microsoft Windows, Familiar with Linux (Ubuntu)

- **Other Skills:**

- YouTube content creator: [An example](#)
 - Making Subtitles for educational videos
 - Casually creating personal and business web sites
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Hobbies

- Reading Russian novels
 - Persian poets and writing poems
 - Mountain climbing
 - Playing Video Games
 - Swimming
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References

- **Dr. Mohammad Farrokhi , farrokhi@iust.ac.ir**
Full Professor, Electrical Engineering Department, Iran University of Science and Technology
- **Dr. Mohammadreza Jahed Motlagh , Jahedmr@iust.ac.ir**
Full Professor, Electrical Engineering Department, Iran University of Science and Technology
- **Dr. Saeed Shamaghdari , shamaghdari@iust.ac.ir**
Assistant Professor, Electrical Engineering Department, Iran University of Science and Technology
- **Dr. Alireza Mohammadshahri , shahri@iust.ac.ir**
Assistant Professor, Electrical Engineering Department, Iran University of Science and Technology
- **Dr. Esmail Khanmirza , khanmirza@iust.ac.ir**
Assistant Professor, Electrical Engineering Department, Iran University of Science and Technology