

Hesam Mojtahedi

UC San Diego Jacobs School of Engineering, 9500 Gilman Dr, La Jolla, CA 92093.

☎ +18586665938 • ✉ hmojtahedi@ucsd.edu • 🌐 Hesam Mojtahedi 📧 hsmmoj

RESEARCH INTERESTS

- ◇ Machine Learning
- ◇ Optimization
- ◇ Computer vision
- ◇ NLP
- ◇ Reinforcement learning
- ◇ AI reliability

EDUCATION

University of California San Diego

Ph.D. in Electrical & Computer Engineering (Intelligent Systems, Robotics & Control)
Advisor: Prof. Yang Zheng

La Jolla, USA

Sep. 2022 – Present

University of Tehran

B.Sc in Electrical Engineering GPA: 18.37/20 — (3.94/4)
Minor in Computer Engineering GPA: 17.4/20

Tehran, Iran

Thesis: "**Incentive Mechanism for Reliable Coded Federated Learning;**
Applications in distributed edge computation"
Advisor: Prof. Hamed Kebriaei

Sep. 2017 – Jul. 2022

HONORS AND AWARDS

- ◇ University of California San Diego Ph.D. fellowship.
- ◇ **Ranked 1st** in control engineering at University of Tehran.
- ◇ Among **top 5%** of students in Electrical Engineering at University of Tehran..
- ◇ Member of the **National Organization for Development of Exceptional Talents (NODET)**

PUBLICATIONS

- ◇ Mojtahedi, H., Liao, F.Y. and Zheng, Y., A Spectral Bundle Method for Sparse Semidefinite Programs. *CDC*, 2023.
- ◇ Milad Soltany Kadarvish*, **Hesam Mojtahedi***, Hossein Entezari Zarch*, Amirhossein Kazerouni*, Alireza Morsali, Azra Abtahi, Farokh Marvasti. Ensemble Neural Representation Networks. *TCAS-II*,-13069-2022 submitted.
(* equal contribution)
- ◇ Rezaeijo Seyed Masoud, Mohammadreza Ghorvei, Razzagh Abedi-Firouzjah, **Hesam Mojtahedi**, and Hossein Entezari Zarch. Detecting COVID-19 in chest images based on deep transfer learning and machine learning algorithms. *Egyptian Journal of Radiology and Nuclear Medicine*, 2021.
- ◇ Rezaeijo, Seyed Masoud, **Hesam Mojtahedi**, Hossein Entezari Zarch, Nahid Chegeni, and Amir Danyaei. Feasibility study of synthetic DW-MR images at different b-values in patients with prostate cancer compared with real DW-MR images: qualitative and quantitative assessment of CycleGAN, Pix2Pix, and DC2Anet models. *Applied Magnetic Resonance Journal*, 2022 submitted.

RESEARCH EXPERIENCE

Research Assistant, Scalable Optimization and Control (SOC) Lab
Supervisor: Prof. Yang Zheng

University of California San Diego
Sep. 2022 – present

Research Assistant, Smart Networks Lab
Supervisor: Prof. Hamed Kebriaei

University of Tehran
Oct. 2021 – Jul. 2022

- o Working on distributed optimization and federated learning tasks in edge computing.

Research Assistant, Multimedia and Signal Processing Lab
Supervisor: Prof. Farokh Marvasti

Sharif University of Technology
Apr. 2019 – Mar. 2020

Attention-based Sparse Generative Language Model for Machine Translation

o Implemented different machine translation models based on RNNs, LSTM, and transformer models like BERT.

Research Intern, Nojan Robotics and Artificial Intelligence

Science & Technology Park, U of Tehran

Supervisor: Prof. Ahmad Kalhor

Jun. 2020 – Oct. 2020

o Employed Deep Neural Networks for Object Detection based on YOLO models for sorting edible seeds.

o Implemented an image processing pipeline on an industrial sorting machine that sorts edible seeds like pistachio by their quality. This machine significantly increases the productivity in food supply chain.

TEACHING ASSISTANTSHIP @ UNIVERSITY of TEHRAN

◇ **Neural Networks** Spring & Fall 2020

Instructor: Prof. Ahmad Kalhor

◇ **Linear Control Systems** Fall 2020

Instructor: Prof. Fariba Bahrami

◇ **Mechatronics** Spring 2021

Instructor: Prof. Mehdi Tale Masouleh

◇ **Probability and Statistics** Fall 2020

Instructor: Prof. Behnam Bahrak

◇ **Probability and Statistics** Spring & Fall 2020

Instructor: Mohammad-Reza A. Dehaqani & Fall 2019

◇ **Convex Optimization** Spring 2022

Instructor: Prof. Arezou Keshavarz

RELATED COURSES (Graduate courses are indicated by †)

◇ **ECE285. SDP and SOS Optimization**† A

Instructor: Prof. Yang Zheng

◇ **MAE280A. Nonlinear systems**† A

Instructor: Prof. Miroslav Krstić

◇ **Convex Optimization**† 20/20

Instructor: Dr. Arezou Keshavarz

◇ **Machine Learning Theory**† [Audit]

Instructor: Prof. Mohammad Ali Maddah-Ali

◇ **Linear Control Systems** 19.25/20

Instructor: Prof. Tooraj Abbasian

◇ **Modern Control Systems** 19.5/20

Instructor: Prof. Hamed Kebriaei

◇ **Data Structures** 18.8/20

Instructor: Prof. Fathiyeh Faghih

◇ **Mechatronics** 19/20

Instructor: Prof. Mehdi Tale Masouleh

◇ **ECE 271A. Statistical Learning I**† A+

Instructor: Prof. Nuno Vasconcelos

◇ **ECE 250. Random Process**† A-

Instructor: Prof. Behrouz Touri

◇ **Machine Learning**† 20/20

Instructor: Prof. Babak N. Araabi

◇ **Neural Networks and Deep Learning**† 17/20

Instructor: Prof. Ahmad Kalhor

◇ **Linear Algebra** 18.3/20

Instructor: Prof. M. J. Yazdanpanah

◇ **Operational Research** 20/20

Instructor: Dr. Reza Shokri

◇ **Engineering Probability and Statistics** 17.6/20

Instructor: Prof. Mohammad-Reza A. Dehaqani

◇ **Advanced Programming (C++)** 16.8/20

Instructor: Prof. Ramtin khosravi

INVITED TALKS

Southern California Control Workshop

UCSB, Apr. 2023

Student seminar series on optimization, control & learning

UCSD, Nov. 2022

PROFESSIONAL ACTIVITIES

Reviewer:

o American Control Conference (ACC)

SKILLS

Programming Languages:

o Proficient in C/C++, Python, Matlab, and Verilog

o Familiar with R, and \LaTeX

Softwares and Frameworks:

o Proficient in PyTorch, NumPy, CVX/CVXPY, and scikit-learn

o Familiar with TensorFlow, and ROS

LANAGUAGE

- o **English** [Proficient]

GRE General (Sept. 12, 2021) — **V:** 165 (96%), **Q:** 168 (91%), **AW:** 4 (54%)

TOEFL iBT (Oct. 03, 2021) — **107/120** (**R:** 30, **L:** 30, **S:** 22, **W:** 25)

- o **Turkish** [Native]

- o **Persian** [Native]