

Amir Pouya Moeini

Education

- 2014–2018 **Diploma**, *Iran Atomic Energy High school* .
2018–present **BSc. Computer Engineering**, Sharif University of Technology - SUT.
2020–present **Minor. Mathematics**, Sharif University of Technology - SUT.

Honors

- 2017 **Gold Medal**, in *National Olympiad Astronomy and Astrophysics*,
By winning this medal, I was able to select any university and any major I want to.
2017–present **Member of**, *Iran's National Elites Foundation*.
2018 **Official member of 12th team of IRAN**, in *International Olympiad Astronomy and Astrophysics (IOAA in Beijing - China)*, which earned First place..
2018 **Gold Medal**, in *International Astronomy and Astrophysics Olympiad (China - Beijing)*.

Research Interests

Academic Research Interests.

- Statistical and Theoretical Machine Learning
- High Dimensional Statistics
- Information Theory
- Online Learning
- Federated Learning

Academic Teaching Experience

- Spring 2021 **Machine Learning (Graduate)** , Dr. Rohban - Ensemble Learning and Dimension Reduction
Spring 2021 **Statistical Machine Learning (Graduate)** , Prof. Rabiee - Dirichlet Process, Indian Buffet Process

Spring 2021 **Machine Learning** , Dr. Hosseini - Probabilistic Graphical Models, Project
Spring 2021 **Regression Analysis** , Prof. Zangeneh - Multivariate Regression Models
Spring 2021 **Artificial Intelligence** , Dr. Rohban - Optimization, Linear Regression, Neural Networks
Fall 2020-21 **Linear Algebra** , Prof. Rabiee - Practical Assignments
Spring 2020 **Linear Algebra** , Dr. Motahari - SVD, QR, Determinant
Spring 2020 **Probabilities and Statistics** , Dr. Omidvar - Statistics part
Fall 2020-21 **Data Structures and Algorithms** , Dr. Seddighin - Hashing, Asymptotics analysis, BST, Disjoint set

Fall 2020-21 **Probabilities and Statistics** Statistics part , Dr. Sharifi - Statistics Parts
Spring 2020 **Advanced Programming**

Academic Research Experience

June 2020-
Now

Undergraduate Research Assistant @DML

Sharif University of Technology, Tehran

Under supervision of Professor Hamid R Rabiee - Social Media, Multimedia Systems

Projects

Fall 2020-21 **DML Laboratory**, *Privacy VS Personalization: A Fair Private Meta-Learning Approach for Distributed Data Personalization and user Profiling.*

under supervision of Prof Hamid R Rabiee

We aim to design a Meta Learning (PML) approach for personalization (user-profiling) while maintaining the required level of accuracy and Privacy in the Federated Learning Context.

For more details: please visit [here](#)

Fall 2020-21 **DML Laboratory**, *Fake news Detection and Mitigation.*

under supervision of Prof Hamid R Rabiee

Try to find next batch of infected users in a social network using Representation Learning and Reinforcement Learning and vaccinate future infected users to mitigate fake news spread. For more details: please visit [here](#)

Summer 2019 **Member of Iranian National Observatory Project.**

under supervision of Habib Khosroshahi

Calculating the Seeing of the sky with some image processing algorithms (Automatically and Manually), Thus the main telescope will have the situation of the weather and can decide is the weather appropriate for the observation or not.

Related Courses

Courses Related to my Research Interests.

- **Theory of Machine Learning** (Graduate Course) - Prof. Mohammad Ali Maddah-Ali (Fall 2020) - My talk and project: [here](#)
- **Bayesian Methods in Statistics and Machine Learning** (Graduate Course) - Dr. Kasra Alishahi (Fall 2020) My talk and project: [here](#)
- **High Dimensional Probabilities** (Graduate Course) - Dr. Mohammad Hossein Yassaee (Winter 2021)
- **Artificial Intelligence** - Dr. Mahdiyeh Soleymani (Fall 2020)
- **Stochastic Process** - Dr. Mostafa Esfahani Zadeh (Winter 2021)
- **Applied Linear Algebra** - Dr. Motjaba Tefagh (Winter 2021)
- **Information Retrieval** - Dr. Mahdiyeh Soleymani (Fall 2020)
- **Linear Algebra** - Dr. Abolfazl Motahari (Fall 2019)
- **Probability and statistic** - Dr. Ali Sharifi Zarchi (Fall 2019)
- **Data Structures and Algorithms** - Dr. Mahdi Safarnejad (Winter 2020)
- **Design Algorithms** - Dr. Massoud Seddighin (Winter 2021)
- Machine Learning (Graduate Course - Audited) - Dr. Mahdiyeh Soleymani
- Deep Learning (Graduate Course - Audited) - Dr. Mahdiyeh Soleymani
- Reinforcement Learning (Graduate Course - Audited) - Dr. Kasra Alishahi
- Information Theory (Graduate Course - Audited) - Dr. Mahtab Mirmohseni
- Introduction to Blockchain (Graduate Course - Audited) - Dr. Maddah-Ali
- Convex Optimization (Graduate Course - Audited) - Dr. Motjaba Tefagh

Small Projects

GANs project: Some implementation of GANs papers. You can see the codes [here](#).

Classification project: Some implementation of Classification papers. codes: [here](#).

DataDays Website: Frontend part of this event website. codes: [here](#).

Reddit Website: Web course project. You can see the codes [here](#).

Duelyst Game: Advanced Programming course project. You can see the codes [here](#).

Academic Activities

Sharif Data Days 2020: Technical and Exec Staff

WSS (Winter seminar series) 2021: Member of the Content team

Sharif Data Days 2021: Member of the Scientific team

Computer Skills

Programming Languages **Python** (Advanced), **R**(Advanced), **JavaScript**(Advanced), **Java**(Advanced), **C**, **Matlab**

Libraries Python: **Pytorch**(Advanced), **Django**(Advanced), **NetworkX**, **Tensorflow**
Javascript: **React**(Advanced), **Redux**, **Node**

Languages

Persian Native

English Intermediate

Work Experience

2017–2020 **Olympiad Instructor.**

Topics I have taught so far:

- **Classical Mechanics, Astrophysics, Cosmology and General relativity, Spherical Astronomy, Special relativity, Data analysis**

Places I've worked so far:

- **Iran Atomic Energy High school, Salam High school, Allame Tabatabaei, Farzanegan2**

References

Prof. Hamid Reza Rabiee.

Professor, Sharif University of Technology, Computer Engineering Department
rabiee@sharif.edu

Dr. Massoud Seddighin.

Lecturer, Sharif University of Technology, Computer Engineering Department
mseddighin@ce.sharif.edu , seddighin.masood@gmail.com