

# M. MEHDI SAMSAMI

Data Scientist

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📍 Shiraz, Iran

in [LinkedIn](#)

🔗 [GitHub](#)

## WORK EXPERIENCE

Data Scientist (Full-Time)

[Rigid Robotics Inc.](#)

📅 Dec 2021—Present

📍 Vancouver, Canada (Remote)

- Performed physical- and signal-based feature extraction and engineering on movement and location data of mining shovels
- Performed clustering on mining shovels' movements data using spectral clustering and VAEs
- Used historical features (e.g., tumbling, lag, and rolling) to improve model accuracy and reduce post-processing overhead
- Designed and developed ensemble classifiers to predict the degree of hardness of shovels' digging operations
- Applied analytical methods for model calibration
- Developed a Python library of utility and project-specific modules required for Rigid Robotics' data applications
- Proposed context-relevant performance metrics to stakeholders and clients
- Developed end-to-end ETL and prediction pipelines for data and machine learning operations (MLOps)
- Wrote unit tests and integration tests for data pipelines
- Managed machine learning life cycle and deployed several data pipelines to Azure cloud
- Developed a multi-environment infrastructure as code (IaC) project based on Pulumi for cloud applications

Data Scientist (Full-Time)

[TechClass Ltd.](#)

📅 May 2020—Dec 2021

📍 Helsinki, Finland (Remote)

- Analyzed KPIs and trends in the enrollments of online courses and students' behaviours
- Developed and deployed a text-to-speech API for online course content narration
- Developed a Bayesian classifier for student dropout prediction using historical, behavioural data
- Developed a similarity-based question-answering chat bot
- Established TechClass AI Department offering several courses on AI and data science

## SKILLS

### Programming

- Python
- C/C++

### Libraries

- NumPy, Pandas, SciPy
- Scikit-learn, XGBoost, TensorFlow
- NLTK, Gensim
- Psycopg2, SQLAlchemy ORM

### Data Analysis

- SQL, KQL
- Matlab
- PostgreSQL, Cosmos DB, Azure Data Explorer

### Data Visualization

- Matplotlib, Plotly, Seaborn
- Microsoft Power BI

### Other

- Git, Pulumi
- MLflow
- Azure ML Service, AWS SageMaker

## HONORS AND AWARDS

- 🏆 Merit-based admission offer to the PhD program in AI at University of Tehran, 2022
- 🏆 IUT Dean's award for outstanding academic excellence, 2021
- 🏆 Shahid Ahadi PhD Fellowship, 2020
- 🏆 3<sup>rd</sup> place in the 3<sup>rd</sup> Iranian BCI Competition, 2020
- 🏆 Ranked 1<sup>st</sup> among MSc students of the Communication Systems track (class of 2020)
- 🏆 Ranked 2<sup>nd</sup> among all (185) MSc students of the ECE Department (class of 2020)
- 🏆 Shiraz University Music Festival Award (lead guitar player), 2015

## EDUCATION

MSc in Electrical Engineering–Communication Systems

[Isfahan University of Technology \(IUT\)](#)

📅 Sep 2018–Sep 2021

GPA: **19.22/20** (First Class Honours)

Thesis: "*Detection of P300 Component based on Statistical Analysis of the Event-related Potentials with Application to Character Spellings*"

BSc in Electrical Engineering

[Shiraz University](#)

📅 Sep 2013–Feb 2018

Last two years GPA: **17.67/20** (top 10%)

Thesis: "*Classification of the Air Quality Level based on Analysis of the Sky Images*"

## PUBLICATIONS

F. Eftekhari and M. M. Samsami, "[The Future of Learning Environments with Artificial Intelligence and Machine Learning](#)," in Proceedings of *15th International Technology, Education and Development Conference*, Online Conference, Mar 2021, pp. 9015–9024.

M. M. Samsami and N. Yasrebi, "[Novel RFID anti-collision algorithm based on the Monte–Carlo query tree search](#)," *Wireless Networks*, vol. 27, no. 1, pp. 621–634, 2020.

M. M. Samsami, N. Shojaie, S. Savar, and M. Yazdi, "[Classification of the Air Quality Level based on Analysis of the Sky Images](#)," in Proceedings of *27th Iranian Conference on Electrical Engineering (ICEE)*, Yazd, Iran, Apr 2019, pp. 1492–1497.

## VOLUNTEER ACTIVITIES

- |   |           |
|---|-----------|
| • Chairman of IEEE IUT Student Branch         | 2019–2020 |
| • Member of IEEE IUT Student Branch           | 2018–2019 |
| • Member of IEEE Shiraz Student Branch        | 2016–2018 |
| • Member of Shiraz University Art Association | 2016–2017 |

## INTERESTS

### Research

- Machine Learning, Deep Learning
- Statistical Inference
- Business Analytics
- Computational Neuroscience

### Hobby

- Playing guitar
- Reading books
- Watching movies and series

## TEACHING EXPERIENCE

### Teaching Assistant

ECE Department, IUT

- |   |                   |
|---|-------------------|
| • Special Topics in DSP                     | Spring 2020       |
| • <a href="#">Probability for Engineers</a> | Fall 2019         |
| • Digital Image Processing                  | Spring, Fall 2019 |

ECE School, Shiraz University

- |  |                 |
|--|-----------------|
| • Fundamentals of Microprocessors        | Fall 2017       |
| • <a href="#">Electronics III</a>        | Spring 2017     |
| • <a href="#">Linear Algebra</a>         | Spring 2017     |
| • Electronics I                          | Fall 2016       |
| • <a href="#">Electrical Measurement</a> | Fall 2015, 2016 |

### Lecturer

- |   |                   |
|---|-------------------|
| • <a href="#">Machine Learning</a>                  | Spring, Fall 2019 |
| Organizer: IEEE IUT Student Branch                  |                   |
| • <a href="#">Machine Learning</a>                  | Summer 2019       |
| Organizer: Shiraz University International Division |                   |

## LANGUAGES

**Persian:** Native

**English:** Full professional proficiency

**IELTS Academic:** 7.5/9