

# Yara Mohammadi Bahram

1 June 1997


Department of Systems Engineering

École de technologie supérieure, Montréal, Canada

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## EDUCATION

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2024-Ongoing	<b>PhD. in Artificial Intelligence</b> École de technologie supérieure, Montréal, Canada
2020-2023	<b>Master of Science in Artificial Intelligence &amp; Robotics</b> University of Tehran, Tehran, Iran <b>GPA: 18.56/20</b> <b>Ranked 31st</b> among +14,000 participants in Computer Engineering nationwide test for Masters studies.
2015-2020	<b>Bachelor of Science in Computer Engineering</b> Isfahan University of Technology, Isfahan, Iran <b>Last year GPA: 17.98/20</b>

## INTERESTS

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Computer Vision - Generative Models - Trustworthy AI - Theoretical ML/DL

## MANUSCRIPTS

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SUBMITTED: *Y Deldjoo, M Varasteh, **YM Bahram**, MA Insabato, T Di Noia*  
*Manuscript* Fairness auditing through the lens of Counterfactual Explanations

## RESEARCH EXPERIENCE

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Research Assistant 01/2024 - Ongoing	<b>Ecole Superieure de Technologie</b> <b>LIVIA</b> Lab <i>PhD Thesis:</i> Weakly-Supervised and Generative Domain Adaptation of Deep Learning Models	<b>Dr. Eric Granger</b> <b>Dr. Mohammadhadi Shateri</b>
External Research Collaboration 05/2022 - 01/2023	<b>Polytechnic University of Bari</b> Italy (Online) <ul style="list-style-type: none"><li>Exploring fairness auditing via counterfactual explanations in classification models</li></ul>	<b>Dr. Yashar Deldjoo</b>
Research Assistant 06/2021 - 08/2023	<b>University of Tehran</b> Computational Modeling & Machine Learning Lab <i>Master Thesis:</i> When & where to perform regularization in training of deep models? <ul style="list-style-type: none"><li>Analyzing the implicit loss of learning image perturbations during model training</li><li>Robustifying deep models to perturbations via post-training layer-wise invariance &amp; equivariance regularizations</li><li>Devising a systematic review on the concept of post-training regularization to find out whether overfitting is a dead-end in training.</li></ul>	<b>Dr. Amin Sadeghi</b>

Research Intern  
08/2019 - 02/2020

**Isfahan University of Technology**  
Hardware Design & Image Processing Lab

[Dr. Shadrokh Samavi](#)

*Bachelor Thesis:* Patched-Based CNN for Instance Segmentation of Pathology Images

- Investigating theoretical methods for optimization & implementation of deep learning architectures

## TEACHING EXPERIENCE

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Mentor  
07/2022 - 08/2022

**HooshBaz Data Analytics Bootcamp** 

University of Tehran

- Group collaboration with 7 other mentors for educating 80 students during 14 data science workshops

Teaching Assistant  
07/2022 - 08/2022

**Neuromatch Academy Deep Learning Summer School** 

USA (Online)

- Selected as TA for full-time supervision on the learning of 16 students from different countries, & leading 2 research group projects during 3 weeks

Teaching Assistant  
09/2021 - 02/2023

**Graduate University Courses**

University of Tehran

- Machine Learning [Dr. Mohammad-Reza Dehaqani](#)
- Deep Generative Models (Lead) [Dr. Mostafa Tavassolipour](#)
- Advanced Deep Learning [Dr. Amin Sadeghi](#)
- Data Analytics & Visualization (Lead) [Dr. Amin Sadeghi](#)

Personal  
01/2022

**Publishing a free introductory ML course online**  

- Created over 2 hours of tutorials in Persian language with Hands-On exercises

## HIGHLIGHTED PROJECTS


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### Freelance projects

[Dr. Mostafa Tavassolipour](#)

- Developing a system for analysis & prediction of Tehran Municipality's salary

### Deep Learning projects on Git



- Trustworthiness (Robust Classification, Local Explanations)
- Generative models (BigBiGAN, InfoGAN, VQ-VAE, TWR VAE)
- Embeddings (Transfer Learning, Multimodal Classification, VQA)
- Self-supervised learning (Unsupervised representation learning, SimCLR, CPC, PixelCNN)

### Data projects on Git



- Launching a real-time BigData system for monitoring, analysis, & prediction of Persian Tweets
- Spotify data crawling, analysis, & music recommendation
- NoSQL Databases (MongoDB, Neo4j, Cassandra, & Elasticsearch)
- Spark (text analysis, log-file mining, stock market analysis, Wikipedia analysis)

## SELECTED COURSES /20

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|--------------------------|-------|----------------------------------|-------|
| • Trustworthy AI         | 18.3  | • Data Analytics & Visualization | 17.25 |
| • Advanced Deep Learning | 19.75 | • Big Data                       | 18.9  |
| • Machine Learning       | 19.6  | • Database Design                | 18.5  |
| • Statistical Inference  | 18.4  | • Artificial Intelligence        | 20    |
| • Reinforcement Learning | 17    | • Multimedia Systems             | 20    |

## SKILLS

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PROGRAMMING LANGUAGES Python, R, C/C++  
PYTHON FOR ML NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn  
DEEP LEARNING Pytorch, Tensorflow  
BIG DATA SQL, NoSQL, Spark, Hadoop, Kafka  
OTHER Crawling, Linux, Docker, Git, LaTeX

## LANGUAGES

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ENGLISH: **110 TOEFL** R28 L29 S26 W27 🌟  
**326 GRE** Q167 V159 🌟  
PERSIAN & KURDISH: Mother tongue