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Montreal, QC H9H 2N9

## WEBSITES, PORTFOLIOS, PROFILES

- [Deep Learning](#)
- [linkedin](#)
- [github](#)

## EDUCATION

Master Degree:  
Machine learning

**Mila and University of  
Montreal 2023**

Machine learning -Deep  
Learning-Data science  
[Data Science Project Link](#)  
Master of Science:  
Applied Science,  
Optimization

**Polytechnique  
Montréal, Montreal, QC,**  
April 2013

# MOHSEN DEHGHANI

CANADIAN CITIZEN

## PROFESSIONAL SUMMARY

Getting a position working at a company as a machine learning professional in which I can efficiently work and use my knowledge from pure to applied mathematics such as numerical linear Algebra, Probability, Statistics, and Computer Science, especially Machine learning. I love to use my knowledge to apply to real-life problems by using computer languages such as Java, or Python. Data Scientist familiar with gathering, cleaning and organizing data for use by technical and non-technical personnel. Advanced understanding of statistical, algebraic and other analytical techniques. Highly organized, motivated and diligent with significant background in machine learning.

## SKILLS

- PyTorch, Scikit, Pandas
- Statistical Methodology
- CNN, Rnn, Deep Learning
- Team Collaboration
- Supervised, Unsupervised Learning
- Research Program Planning
- Strong Mathematical Aptitude
- Behavior Analysis
- Data Analysis
- Data Modeling
- Data Collection
- Theoretical Development

## ACADEMIC PROJECTS

September 2022 - Current

**Mila - Machine Learning Developer**, Montreal, QC

- Researched, designed and implemented machine learning applications to solve The National Hockey League (NHL).
- Analyzed large datasets to identify trends and patterns in customer behaviors.
- Implemented and evaluated artificial intelligence and machine learning algorithms and neural networks for diverse industries.
- Developed polished visualizations to share results of data analyses.
- Ran statistical analyses within software to process large datasets.
- Leveraged artificial intelligence and machine learning algorithms for standalone products and enhanced existing product offerings.
- Applied loss functions and variance explanation techniques to compare performance metrics.
- Designed, implemented and evaluated new models and rapid software prototypes to solve problems in machine learning and systems engineering.

## Publications:

A regularized interior-point method for constrained linear least squares

**GERAD and Department of Mathematics and Industrial Engineering, École Polytechnique de Montréal, Montreal, Canada 19 Feb 2019**

## Awards and Achievements:

Natural Sciences and Engineering Research Council of Canada (NSERC).

## Languages:

English  
French

- Modeled predictions with feature selection algorithms.
  - Composed production-grade code to convert machine learning models into services and pipelines to be consumed at web-scale.
  - Implemented randomized sampling techniques for optimized surveys.
  - Studied new technologies to support machine learning applications.
  - Collaborated with multi-disciplinary product development teams to identify performance improvement opportunities and integrate trained models.
  - Compiled, cleaned and manipulated data for proper handling.
  - Identified new problem areas and researched technical details to build innovative products and solutions.
  - Improved data collection methods by designing surveys, polls and other instruments.
  - Created customized applications to make critical predictions, automate reasoning and decisions and calculate optimization algorithms.
  - Developed advanced graphic visualization concepts to map and simplify analysis of heavily-numeric data and reports.
  - Devised and deployed predictive models using machine learning algorithms to drive business decisions.
  - Transformed raw data to conform to assumptions of machine learning algorithm.
  - Leveraged mathematical techniques to develop engineering and scientific solutions.
  - Prototyped machine learning applications and quickly determined application viability.
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## WORK HISTORY

September 2015 - September 2019

**Polytechnique Montréal - Data Scientist**, Montreal, QC

- Applying the L1-LS method for solving a least squares problem with an L1 penalty to Signal recognition.  
The goal was to reconstruct a signal from a small number of linear measurements, and L1-LS can be used to find the sparsest solution that fits the measurements.
- Proposed a deep learning-based modulation classification method with 2D time-frequency signal representation. In the proposed method, signals which have been received are first analyzed by time-frequency based on continuous wavelet transform. Then, the images of received signals are obtained and input to the deep learning model for classifying.

September 2018 - August 2022

**College Prep International**

- Teaching Math, and Programming with Python
- Strengthened communication skills through regular interactions with others.
- Worked with staff members and teachers to design comprehensive and individualized plans to optimize student education.

September 2013 - May 2015

**Ecole Polytechnique - Researcher**, Montreal, QC

- Worked on a regularized interior-point method for constrained linear least squares.
- Proposed an infeasible interior-point algorithm for constrained linear least-squares problem based on the primal-dual regularization of convex programs.

