

# Moh Ashtari, Ph.D.

## Summary

- Accomplished Data Scientist with insatiable intellectual curiosity and more than 10 years of experience in executing data-driven solutions to increase efficiency, accuracy, and utility of data to create value. Passionate Story teller.
- Certified Business Intelligence (BI) Analyst, experienced in Statistical Analysis and KPI Dashboards design.
- Member of Compute Canada for High Performance Computing (HPC) since 2008 for large scale cloud computing, Member of National Science Olympiad team.

## Work Experience

### Senior Data Scientist

#### Bank of Canada

📅 2020 - Present

- Developing, and Deploying Machine Learning applications for the economical research center of the Bank.
- Started the NLP division within the bank to promote text analysis usage to open up new economical vision
- Employing PySpark for building prediction models to forecast national housing market.

### Data Scientist

#### Cloudera/Thermo Fisher Scientific

📅 2014 - 2020

- Applications of Machine Learning and Business Intelligence to solve variety of business challenges including cost reduction, supply chain performance optimization, building predictive models and more, for our clients.
- Developed online and in class course materials for business clients seeking to employ data science tools to boost their businesses.

### Machine Learning Instructor

#### Southern Alberta Institute of Technology

📅 2013 - 2019

- Instructor of Machine Learning and Business Intelligence courses: "*Data Analytics*", "*Big Data & Analytics*", and "*Business Intelligence - Data Analysis and Reporting*"
- Instructor of Programming courses: "*Introduction to Python Programming*", and "*Programming with Python*"

### Machine Learning Researcher

#### University of Calgary

📅 2013 - 2014

- Developed local data analysis tools with Python for analyzing the results of cluster MPI computations.
- Development of faster machine learning applications (up to 1000 times faster) of extra cellular proteins/RNA interactions.

## Softskills

- Critical Thinking
- Organization
- Agile
- Team Work
- Proactive Problem Solving
- MultiTasking
- Data Intuition
- Scrum

## Tech Tools

Python	●●●●●●
SAS	●●●●●●
SQL	●●●●●●
Math/Statistics	●●●●●●
Linux	●●●●●●
ETL/EDA	●●●●●●
R	●●●●●●
DAX	●●●●●●
Power BI/Tableau	●●●●●●
SPSS	●●●●●●
PySpark	●●●●●●
MATLAB	●●●●●●
Scala	●●●●●●
Google Go	●●●●●●
Julia	●●●●●●
C#/Net	●●●●●●

## Strengths

### - ML Algorithms

- Linear/Polynomial/Logistic Regression
- KNN
- K-Means
- PCA
- SVM
- DTC
- RFC
- RS
- GBC
- Reinforcement Learning
- XGBoost
- NBC
- NN

### - Python ML Packages

- Seaborn
- PyTorch
- Matplotlib
- Pyfolio
- Keras
- TensorFlow
- StatsModels
- SciPy
- Scikit-learn
- Numpy
- Spark MLlib
- Pandas
- Quantopian

### - Development Tools

- MySQL/PostgreSQL/SparkSQL
- Jupyter
- mongoDB
- SageMaker
- Databricks

### - Visualization Tools

- Tableau
- Power BI
- D3.js
- Ggplot2
- Matplotlib
- Seaborn
- Plotly
- Shiny

### - Cloud

- Azure
- AWS

## Most Recent Projects

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### JEL Code Classification

📅 2020 – ongoing

- Developing a classifier to classify economic research papers into more than 2000 categories. This is part of the automation process of research papers in collaboration with the World bank.

### Virtual Column

📅 2018 – 2020

- "*Virtual Column*". Online platform for predicting separation order and performance, Improved explained variance score by average 21%.

### C4S

📅 2018 – 2019

- "C4S", cloud-based service management platform to provide exact "on-the-go" information about service tickets around the globe. Reduction of 32% on travel costs.

### Auto-Smart

📅 2016 – ongoing

- "Auto-Smart" project, a small software package that automatically saves instrument data to cloud used for monitoring the health of medical devices to prevent failure and predict/reduce down time.

## Certificates, *short list*

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- Data Analysis with Python, IBM
- Data Visualization with Python, IBM
- Databases and SQL for Data Science, IBM
- Machine Learning with Python, IBM
- Python for Data Science and AI, IBM
- Python, Google
- Machine Learning, Stanford University
- Deep Learning Specialization, deeplearning.ai
- Machine Learning, University of Washington
- SAS Programmer Professional Certificate, sas
- Microsoft Certified: Azure Data Scientist Associate, Microsoft
- Google Cloud Training, Google
- Machine Learning with TensorFlow on Google Cloud Platform, Google
- Google Cloud Essentials, Google
- Google Cloud Certification, Google
- PyTorch for Deep Learning with Python, Pierian Data Inc.
- Python for Financial Analysis and Algorithmic Trading, Pierian Data Inc.
- The Elements of Data Science, AWS
- The Business Intelligence Analyst, 365 Careers
- Complete Introduction to Business Data Analysis, Data Insight Training
- Complete Financial Analyst Course, 365 Careers
- Python for Finance: Investment Fundamentals & Data Analytics, 365 Careers

## Education

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### PhD, Numerical Modeling, Queen's University

📅 2008 – 2012

- ML applications for drugs separation.

### MSc, Numerical Modeling, Sharif University of Technology

📅 2003 – 2005

- NN for predicting Nickel-Cadmium AA batteries performance.

### BSc, Mathematics, Sharif University of Technology

📅 1999 – 2003

- Numerical Modeling of solid-liquid interfaces.

## Distinctions

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- Queen's Research Award, 2008-2012, Canada.
- Ranked 1/500 in PhD admission exam, 2007, Iran.
- Scored 97/99 in GRE Subject Test, 2007, USA.
- Ranked 4<sup>th</sup> in 8<sup>th</sup> Science Olympiad, 2003, Iran.

## Productivity

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MS Office MS Project JMP Gromacs  
AutoCAD Xmgrace SPSS

## Publications, *short list*

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- *Journal of Chromatography A*, 1218 6331–6347, 2011.
- *Journal of Chromatography A*, 1265 70-87, 2012.
- *Journal of Chemical Physics*, 136 114705–114714, 2012.
- *Journal of Physical Chemistry C*, 117 4131-4140, 2013.
- *Journal of Chromatography A*, 1409 89-107, 2015.
- *BioPhysical Journal*, 106-2, 700A-701A, 2014.
- *BioPhysical Journal*, 110-3, 247A, 2016.