

# Mohammad Afzali

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## EDUCATION

<b>McMaster University</b> , Hamilton, Canada Computer Science M.Sc. student, GPA: 4/4	Sep. 2022 - Apr. 2024
<b>Sharif University of Technology</b> , Tehran, Iran Computer Science B.Sc. student.	2017 - 2022

## RESEARCH EXPERIENCE

<b>Vector Institute</b> Research Intern, Supervised by <b>Dr. Sivan Sabato</b> . Investigating the intersection of <b>Interactive Learning</b> and Differential Privacy.	Apr. 2024 - Present
<b>McMaster University</b> Research Assistant, Supervised by Dr. Hassan Ashtiani Conducting research on <b>Robust &amp; Differentially Private Machine Learning</b> .	Sep. 2022 - Apr. 2024
<b>Sharif University of Technology</b> Research Assistant, Supervised by Dr. Babazadeh Designed a <b>real-time bidding strategy</b> using <b>Reinforcement Learning</b> in online advertising systems.	Feb. 2021 - Jun. 2022

## PUBLICATIONS

Mohammad Afzali, Hassan Ashtiani, Christopher Liaw, <b>Mixtures of Gaussians are Privately Learnable with a Polynomial Number of Samples</b> 35th International Conference on Algorithmic Learning Theory ( <b>ALT</b> ), 2024
Mohammad Afzali, Keykhosro Khosravani, Maryam Babazadeh, <b>Optimal Bidding Strategy with Smooth Budget Delivery in Online Advertising</b> 31st International Conference on Electrical Engineering ( <b>ICEE</b> ), 2023

## AWARDS AND HONORS

• <b>Vector Scholarship in AI</b> awarded	Apr. 2022
• <b>1st place (Gold Medal) in Iran National B.Sc. Statistics Olympiad</b>	Aug. 2021
• Ranked top 0.5% (among 150000+) in National University Entrance Exams	Jul. 2017
• <b>Bronze Medal at 28th Iran National Mathematics Olympiad</b>	Summer 2016

## TECHNICAL EXPERIENCE

<u>Balad</u> , Tehran, Iran <b>Data Engineer</b> (Part-time) Worked on storing and processing <b>Big Data</b> and performed efficient ETLs for traffic prediction, user segmentation, ETA improvement, and extracting user behavior chain. Balad is the leading map and navigation service in Iran with more than <b>20 million users</b> , a product of the Iranian tech giant, CafeBazaar.	Oct. 2019 - Jul. 2020
<u>CafeBazaar</u> , Tehran, Iran <b>Software Engineer Intern</b> Designed and implemented an online Auto Mechanic web service in a team. It is a web application providing users with car repairing services.	Summer 2019

## TEACHING EXPERIENCE

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McMaster University, Department of Computing and Software, Hamilton, Canada

Introduction to **Machine Learning TA** (Winter 2024, Fall 2023, Winter 2023)

Sharif University of Technology, Mathematical Science Department, Tehran, Iran

Data Base TA (Spring 2021), Data Structures TA (Spring 2021), Basic Programming TA (Fall 2019)

National Organization for Development of Exceptional Talents, Kerman, Iran

**Mathematics Olympiad Teacher**

Taught Combinatorics, Number Theory, Algebra, Geometry.

Oct. 2016, Aug. & Sept. 2017, Aug. & Sept. 2018, Oct. 2020

## COMPUTER SKILLS

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**Programming Language:** Python, Java, Matlab, Scala, Julia

**Big Data Technologies:** Spark, PySpark, Hadoop, HIVE, Kafka,  
MongoDB, Elasticsearch, Airflow

**Frameworks:** PyTorch, TensorFlow, Keras, Django, Bootstrap

**OS:** Ubuntu, MacOS, Windows

**Other:** L<sup>A</sup>T<sub>E</sub>X

## SELECTED GRADUATE COURSES

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Foundations of Unsupervised Learning (A+)

Machine Learning on Graphs (A+)

Trustworthy Machine Learning (A+)

Non-Linear Optimization (A+)

## PROFESSIONAL PRESENTATIONS

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Presented a poster on 'Privately Learning Mixture Distributions'  
Vector Institute Research Symposium, Toronto

Feb. 2024

Presented a poster on 'Privately Learning Mixture Distributions'  
Machine Learning Theory Workshop, University of Waterloo

Nov. 2023

Gave an online talk on the topic of 'Differentially Private Empirical Risk Minimization'  
Canadian Student Reading Group on Data Science

Sep. 2022