

# Abdelrahman Zayed

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7000, Avenue Wiseman, Montréal, Quebec, Canada (Apt. 7)

## Education

Sep 2020-  
present

PHD IN COMPUTER SCIENCE.  
**MILA (QUEBEC AI INSTITUTE), POLYTECHNIQUE MONTREAL, MONT-  
RÉAL, CANADA.**

- Cumulative GPA : 4.0/4.0
- **Supervisor** : Professor Sarath Chandar
- **Research interests** : Natural language processing, fairness, causal inference, and medical imaging.

May 2018-  
April 2020

MASTER OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING.  
**CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.**

- Cumulative GPA : 4.2/4.2
- **Supervisor** : Professor Hassan Rivaz

July 2016

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING.  
**CAIRO UNIVERSITY, GIZA, EGYPT.**

- Summa Cum Laude
- Cumulative GPA : 3.92/4.0 (Top 3 %)

## Experience

May 2021-  
July 2022

**GRADUATE RESEARCH ASSISTANT, MICROSOFT RESEARCH.**  
MONTRÉAL, CANADA.

- **Supervisor** : Samira Shabanian
- Proposed a novel gender bias mitigation method in text classification.

May 2020-  
Aug 2020

**GRADUATE RESEARCH ASSISTANT, MILA (QUEBEC AI INSTITUTE).**  
MONTRÉAL, CANADA.

- **Supervisor** : Professor Sarath Chandar
- Worked on the application of constraints to the output of neural networks.

May 2018-  
April 2020

**GRADUATE RESEARCH ASSISTANT, IMAGE PROCESSING AND CHARACTERI-  
ZATION OF TISSUE LABORATORY.**  
PERFORM CENTRE, MONTRÉAL, CANADA.

- **Supervisor** : Professor Hassan Rivaz
- Applied machine learning in ultrasound imaging for detecting cancer tumours.

May 2019-  
Jan 2020

**GRADUATE RESEARCH ASSISTANT, NEURAL ABC LABORATORY.**  
CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.

- **Supervisor** : Professor Christopher J. Steele
- Developed a model of the structural connections of the human brain to predict the effects of brain lesions.

Oct 2016-  
Dec 2016

**GRADUATE RESEARCH ASSISTANT, CAIRO UNIVERSITY.**  
CAIRO, EGYPT.

- **Supervisor** : Professor Mohamed Khairy
- Worked on Optical Wireless Communications in 5G Networks.

## Scholarships and Awards

MICROSOFT FUNDING FOR AMBITIOUS PROJECTS - GRADUATE RESEARCH ASSISTANTSHIP FROM MILA - QBIN SCHOLARSHIP FOR MASTER'S STUDENTS - CAE SCHOLARSHIP IN ENGINEERING EXCELLENCE FROM CONCORDIA UNIVERSITY - GRADUATE RESEARCH ASSISTANTSHIP FROM CONCORDIA UNIVERSITY - MERIT SCHOLARSHIP FROM CONCORDIA UNIVERSITY - MEDAL OF DISTINCTION WITH HONOR IN UNDERGRADUATE STUDIES FROM CAIRO UNIVERSITY.

## Teaching Assistant

ANALOG COMMUNICATIONS AT CAIRO UNIVERSITY (FALL 2016) - INTRODUCTION TO MACHINE LEARNING AT POLYTECHNIQUE MONTRÉAL (FALL 2020 AND FALL 2021).

## Publications

1-**A. ZAYED**, GONCALO MORDIDO, SAMIRA SHABANIAN, IOANA BALDINI , SARATH CHANDAR "FAIRNESS-AWARE STRUCTURED PRUNING IN TRANSFORMERS" - UNDER REVIEW.

2-**A. ZAYED**, GONCALO MORDIDO, SAMIRA SHABANIAN, SARATH CHANDAR "SHOULD WE ATTEND MORE OR LESS ? MODULATING ATTENTION FOR FAIRNESS" - AAAI 2024.

3-**A. ZAYED**, PRASANNA PARTHASARATHI, GONCALO MORDIDO, HAMID PALANGI, SAMIRA SHABANIAN, SARATH CHANDAR "DEEP LEARNING ON A HEALTHY DATA DIET : FINDING IMPORTANT EXAMPLES FOR FAIRNESS AND PERFORMANCE" - AAAI 2023.

4-**A. ZAYED** AND H. RIVAZ "FAST STRAIN ESTIMATION AND FRAME SELECTION IN ULTRASOUND ELASTOGRAPHY USING MACHINE LEARNING" - IEEE TRANSACTIONS ON ULTRASONICS, FERROELECTRICS, AND FREQUENCY CONTROL (TUFFC), 12 MAY 2020.

5-**A. ZAYED**, Y. ITURRIA-MEDINA, A. VILLRINGER, B. SEHM AND C. STEELE "RAPID QUANTIFICATION OF WHITE MATTER DISCONNECTION IN THE HUMAN BRAIN" - IEEE EMBC 2020, 42ND ANNUAL INTERNATIONAL CONFERENCE OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY.

6-**A. ZAYED**, G. CLOUTIER AND H. RIVAZ "AUTOMATIC FRAME SELECTION USING CNN IN ULTRASOUND ELASTOGRAPHY" - IEEE EMBC 2020, 42ND ANNUAL INTERNATIONAL CONFERENCE OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY.

7-**A. ZAYED** AND H. RIVAZ "AUTOMATIC FRAME SELECTION USING MLP NEURAL NETWORK IN ULTRASOUND ELASTOGRAPHY" - ICIAR 2019, 16TH INTERNATIONAL CONFERENCE ON IMAGE ANALYSIS AND RECOGNITION.

8-**A. ZAYED** AND H. RIVAZ "FAST APPROXIMATE TIME-DELAY ESTIMATION IN ULTRASOUND ELASTOGRAPHY USING PRINCIPAL COMPONENT ANALYSIS" - IEEE EMBC 2019, 41ST ANNUAL INTERNATIONAL CONFERENCE OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY.

## Paper review

NEURIPS - ICML - ACL - TMI.

## Volunteering

ASSISTED IN ORGANIZING THE CONFERENCE ON LIFELONG LEARNING AGENTS (CoLLAs) HELD IN MONTREAL IN 2022.

HELPED KIDS WITH MATH HOMEWORK AT JEUNESSE UNIE YOUTH CENTER.

HELPED IN FILTERING THE DONATIONS AT LE MAGASIN DU CHAÎNON.

HELPED WITH EVENT COORDINATION AT MARCHÉ AHUNTSIC-CARTIERVILLE.

COOKED AND WASHED DISHES AND POTS AT TABLÉE DES CHEFS.

HELPED IN FILTERING THE DONATIONS AT LE MAGASIN DU CHAÎNON.