

# Abdelrahman Zayed

abdel.zayed.1@gmail.com — (438) 520-7196  
7000, Avenue Wiseman, Montréal, Quebec, Canada (Apt. 4)

## Education

Sep 2020-  
present

PHD IN COMPUTER SCIENCE.  
**QUEBEC ARTIFICIAL INTELLIGENCE INSTITUTE (MILA), MONTRÉAL, CANADA.**

- Cumulative GPA : 4.0/4.0
- **Supervisor** : Professor Sarath Chandar
- **Research interests** : Natural language processing, causal inference, fairness, 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 %)

## Industrial Experience

May 2021-  
present

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

- **Supervisor** : Samira Shabanian
- Working on analyzing and improving gender bias mitigation methods in text classification.

## Academic Experience

May 2020-  
Aug 2020

**RESEARCH ASSISTANT, QUEBEC ARTIFICIAL INTELLIGENCE INSTITUTE (MILA).**  
MONTRÉAL, CANADA.

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

- |                                 |   |
|---------------------------------|---|
| <b>May 2018-<br/>April 2020</b> | <p><b>RESEARCH ASSISTANT</b>, IMAGE PROCESSING AND CHARACTERIZATION OF TISSUE LABORATORY.<br/>PERFORM CENTRE, MONTRÉAL, CANADA.</p> <ul style="list-style-type: none"> <li>• <b>Supervisor</b> : Professor Hassan Rivaz</li> <li>• Applied machine learning techniques in ultrasound imaging for detecting cancer tumours.</li> </ul>                                   |
| <b>May 2019-<br/>Jan 2020</b>   | <p><b>RESEARCH ASSISTANT</b>, NEURAL ABC LABORATORY.<br/>CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.</p> <ul style="list-style-type: none"> <li>• <b>Supervisor</b> : Professor Christopher J. Steele</li> <li>• Developed a normative model of the structural connections of the human brain, that can be used to predict the network effects of brain lesions.</li> </ul> |
| <b>Oct 2016-<br/>Dec 2016</b>   | <p><b>RESEARCH ASSISTANT</b>, CENTER OF WIRELESS STUDIES.<br/>CAIRO UNIVERSITY, GIZA, EGYPT.</p> <ul style="list-style-type: none"> <li>• <b>Supervisor</b> : Professor Mohamed Khairy</li> <li>• Worked in optical wireless communications in 5G networks.</li> </ul>  |

## Scholarships and Awards

- |                  |   |
|------------------|---|
| <b>2020-2021</b> | -GRADUATE RESEARCH ASSISTANTSHIP (25,000 \$ PER YEAR).<br>POLYTECHNIQUE MONTRÉAL, MONTRÉAL, CANADA.             |
| <b>2019</b>      | -QBIN SCHOLARSHIP FOR MASTER'S STUDENTS (5,000 \$).<br>THE QUEBEC BIO-IMAGING NETWORK (QBIN), MONTRÉAL, CANADA. |
| <b>2019</b>      | -CAE SCHOLARSHIP IN ENGINEERING EXCELLENCE (2,434 \$).<br>CONCORDIA UNIVERSITY, CANADA.                         |
| <b>2018-2020</b> | -GRADUATE RESEARCH ASSISTANTSHIP (15,000 \$ PER YEAR).<br>CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.               |
| <b>2018</b>      | -MERIT SCHOLARSHIP (5,000 \$).<br>CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.                                       |
| <b>2011-2016</b> | -MEDAL OF DISTINCTION WITH HONOR IN UNDERGRADUATE STUDIES.<br>CAIRO UNIVERSITY, GIZA, EGYPT.                    |

## Teaching

- |                  |   |
|------------------|---|
| <b>Fall 2016</b> | <p><b>TEACHING ASSISTANT.</b><br/>CAIRO UNIVERSITY, GIZA, EGYPT.</p> <ul style="list-style-type: none"> <li>• Conducted tutorials and graded exams for an undergraduate course in Analog Communications.</li> </ul>                       |
| <b>Fall 2020</b> | <p><b>TEACHING ASSISTANT.</b><br/>POLYTECHNIQUE MONTRÉAL, CANADA.</p> <ul style="list-style-type: none"> <li>• Conducted tutorials and graded assignments/exams for an undergraduate/graduate course in machine learning.</li> </ul>      |
| <b>Fall 2021</b> | <p><b>LEAD TEACHING ASSISTANT.</b><br/>POLYTECHNIQUE MONTRÉAL, CANADA.</p> <ul style="list-style-type: none"> <li>• Conducted tutorials and graded assignments/exams for an undergraduate/graduate course in machine learning.</li> </ul> |

## Publications

1-**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.

2-**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.

3-**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.

4-**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.

5-**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.

## Review

IEEE TRANSACTIONS ON MEDICAL IMAGING (TMI), 2020 (IMPACT FACTOR : 10.72).

THE INTERNATIONAL CONFERENCE ON MACHINE LEARNING (ICML), 2022.

## Community Service

June 2019-

Sep 2019

July 2020-

Aug 2020

July 2019-

Aug 2019

**STUDENT VOLUNTEER**, QUEBEC BIO-IMAGING NETWORK (QBIN).  
MONTRÉAL, CANADA.

**VOLUNTEER** AT MARCHÉ AHUNTSIC-CARTIERVILLE.  
MONTREAL, CANADA.

**VOLUNTEER** AT LE MAGASIN DU CHAÎNON.  
MONTRÉAL, CANADA.

## Languages

-ENGLISH, FRENCH AND ARABIC.

## Skills and Hobbies

PYTHON (PYTORCH/TENSORFLOW)-MATLAB-C/C++-JAVA.

WINDOWS OPERATING SYSTEM-LINUX OPERATING SYSTEM.

PLAYING PIANO.