

# Abdelrahman Zayed

abdel.zayed.1@gmail.com — (438) 520-7196  
7000, Avenue Wiseman, Montréal, Quebec, Canada (Apt. 8)

## Education

Sep 2020-  
present

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

- **Supervisor** : Professor Sarath Chandar
- **Research interests** : Recurrent neural networks, neuroscience, reinforcement learning, lifelong learning, natural language processing 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 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.

May 2018-  
April 2020

**RESEARCH ASSISTANT**, IMAGE PROCESSING AND CHARACTERIZATION OF TISSUE LABORATORY.  
PERFORM CENTRE, MONTRÉAL, CANADA.

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

May 2019-  
Jan 2020

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

- **Supervisor** : Professor Christopher J. Steele
- Developed a normative model of the structural connections of the human brain, that can be used to predict the network effects of brain lesions.

Oct 2016-  
Dec 2016

**RESEARCH ASSISTANT**, CENTER OF WIRELESS STUDIES.  
CAIRO UNIVERSITY, GIZA, EGYPT.

- **Supervisor** : Professor Mohamed Khairy
- Worked in optical wireless communications.

## Scholarships and Awards

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

## Teaching

<b>Fall 2016</b>	<b>TEACHING ASSISTANT.</b> CAIRO UNIVERSITY, GIZA, EGYPT. <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>	<b>TEACHING ASSISTANT.</b> POLYTECHNIQUE MONTRÉAL, CANADA. <ul style="list-style-type: none"><li>• Conducted tutorials and graded exams for an undergraduate 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).
- 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 : 7.816).

## **Presentations and Posters**

- Dec 11, 2020** 1-MOSTAFA ELARABY, GUY WOLF AND MARGARIDA CARVALHOY "IDENTIFYING EFFICIENT SUB-NETWORKS USING MIXED INTEGER PROGRAMMING".  
CONFERENCE ON NEURAL INFORMATION PROCESSING SYSTEMS (NEURIPS).
- Feb 7, 2020** 2- **A. ZAYED** , Y. ITURRIA-MEDINA, A. VILLRINGER, B. SEHM AND C. STEELE "QUATIFYING WHITE MATTER DISCONNECTION IN PATIENT POPULATIONS".  
ANNUAL QBIN SCIENTIFIC DAY, MONTRÉAL, CANADA.
- May 10, 2019** 3- **A. ZAYED** AND H. RIVAZ "AUTOMATIC FRAME SELECTION USING MLP NEURAL NETWORK IN ULTRASOUND ELASTOGRAPHY" .  
6TH ANNUAL PERFORM CENTRE RESEARCH CONFERENCE, MONTRÉAL, CANADA.
- May 9, 2019** 4- **A. ZAYED** AND H. RIVAZ "AUTOMATIC FRAME SELECTION USING MLP NEURAL NETWORK IN ULTRASOUND ELASTOGRAPHY".  
COLLOQUE ANNUEL RESMIQ, CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.

## **Community Service**

- June 2019-Sep 2019** **STUDENT VOLUNTEER**, QUEBEC BIO-IMAGING NETWORK (QBIN).  
MONTRÉAL, CANADA.
- July 2020-Aug 2020** **VOLUNTEER** AT MARCHÉ AHUNTSIC-CARTIERVILLE.  
MONTREAL, CANADA.
- July 2019-Aug 2019** **VOLUNTEER** AT LE MAGASIN DU CHAÎNON.  
MONTRÉAL, CANADA.

## **Skills and Hobbies**

PYTHON (PYTORCH/TENSORFLOW)-MATLAB-C/C++-JAVA-R.  
WINDOWS OPERATING SYSTEM-LINUX OPERATING SYSTEM.  
PLAYING PIANO.

## **Languages**

-ENGLISH, FRENCH AND ARABIC.