

Abdelrahman Zayed

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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, 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 %)

Industrial Experience

May 2021-
July 2022

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.

- 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 in 5G networks.

Scholarships and Awards

- 2022-2023** -MICROSOFT FUNDING FOR AMBITIOUS PROJECTS (60,000 \$ PER YEAR).
MICROSOFT, MONTRÉAL, CANADA.
- 2020-2022** -GRADUATE RESEARCH ASSISTANTSHIP (27,000 \$ PER YEAR).
MILA, MONTRÉAL, CANADA.
- 2019** -QBIN SCHOLARSHIP FOR MASTER'S STUDENTS (5,000 \$).
THE QUEBEC BIO-IMAGING NETWORK (QBIN), MONTRÉAL, CANADA.
- 2019** -CAE SCHOLARSHIP IN ENGINEERING EXCELLENCE (2,434 \$).
CONCORDIA UNIVERSITY, CANADA.
- 2018-2020** -GRADUATE RESEARCH ASSISTANTSHIP (15,000 \$ PER YEAR).
CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.
- 2018** -MERIT SCHOLARSHIP (5,000 \$).
CONCORDIA UNIVERSITY, MONTRÉAL, CANADA.
- 2011-2016** -MEDAL OF DISTINCTION WITH HONOR IN UNDERGRADUATE STUDIES.
CAIRO UNIVERSITY, GIZA, EGYPT.

Teaching

- Fall 2016** **TEACHING ASSISTANT**.
CAIRO UNIVERSITY, GIZA, EGYPT.
- Conducted tutorials and graded exams for an undergraduate course in Analog Communications.
- Fall 2020** **TEACHING ASSISTANT**.
POLYTECHNIQUE MONTRÉAL, CANADA.
- Conducted tutorials and graded assignments/exams for an undergraduate/graduate course in machine learning.
- Fall 2021** **LEAD TEACHING ASSISTANT**.
POLYTECHNIQUE MONTRÉAL, CANADA.
- Conducted tutorials and graded assignments/exams for an undergraduate/graduate course in machine learning.

Publications

1-**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” - THE THIRTY-SEVENTH ASSOCIATION FOR THE ADVANCEMENT OF ARTIFICIAL INTELLIGENCE (AAAI 2023), 19 Nov 2022.

2-**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.

3-**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.

4-**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.

5-**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.

6-**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

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