

Abdelrahman Zayed

abdel.zayed.1@gmail.com — (438) 520-7196
7254, Drolet, Montréal, Quebec, Canada

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.

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| May 2018-
April 2020 | RESEARCH ASSISTANT , IMAGE PROCESSING AND CHARACTERIZATION OF TISSUE LABORATORY.
PERFORM CENTRE, MONTRÉAL, CANADA. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Supervisor : Professor Mohamed Khairy • Worked in optical wireless communications in 5G networks. |

Scholarships and Awards

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| 2020-2021 | -GRADUATE RESEARCH ASSISTANTSHIP (25,000 \$ PER YEAR).
POLYTECHNIQUE MONTRÉAL, 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

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| Fall 2016 | TEACHING ASSISTANT.
CAIRO UNIVERSITY, GIZA, EGYPT. <ul style="list-style-type: none"> • Conducted tutorials and graded exams for an undergraduate course in Analog Communications. |
| Fall 2020 | TEACHING ASSISTANT.
POLYTECHNIQUE MONTRÉAL, CANADA. <ul style="list-style-type: none"> • Conducted tutorials and graded assignments/exams for an undergraduate/graduate course in machine learning. |
| Fall 2021 | LEAD TEACHING ASSISTANT.
POLYTECHNIQUE MONTRÉAL, CANADA. <ul style="list-style-type: none"> • 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” - SUBMITTED TO THE THIRTY-SIXTH CONFERENCE ON NEURAL INFORMATION PROCESSING SYSTEMS (NEURIPS 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).

Presentations and Posters

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| 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

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| 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. |

Languages

-ENGLISH, FRENCH AND ARABIC.

Skills and Hobbies

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