

Edward (Eddie) Guo

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EDUCATION

University of Alberta | Edmonton, AB **Sep. 2020 – Present**
Bachelor of Science in Engineering (GPA: 4.00/4.00)

University of Alberta | Edmonton, AB **Sep. 2018 – Apr. 2020**
Bachelor of Science Honors Neuroscience (GPA: 4.00/4.00)
Transferred to the Faculty of Engineering at the University of Alberta

EMPLOYMENT

Undergraduate Teaching Assistant **Sep. 2020 – Present**
Introduction to Tangible Computing I & II (CMPUT 274/275) | University of Alberta

- Providing personalized student support during office hours to a class of 160+ students.
- CMPUT 274/275 is the honors stream of introductory CS and Computer Engineering courses at the University of Alberta. Topics include introductory programming, data structures, and algorithms in Python and C++.

Undergraduate Research Student **Oct. 2018 – Oct. 2021**
Zochodne Lab | Li Ka Shing Center for Health Innovation, Edmonton, AB

- Researching the effects of acute and chronic cutaneous denervation on differential mRNA expression in skin keratinocytes.

Fencing Coach **Nov. 2016 – Oct. 2021**
Edmonton Fencing Club | Edmonton, AB

- Taught fencing to children and teenagers in class sizes ranging from 5-25 students.
- Facilitated demonstrations and open houses.

TECHNICAL SKILLS

Programming: R, Python, C++, Arduino
Markup and Version Control: \LaTeX , HTML, CSS, Git
Design: Fusion 360

VOLUNTEERING

Youreka Canada **May 2020 – Present**
Associate Director of Programs | Youreka Canada

- Leading the Programs Department to develop the national curriculum, which focuses on research and data science for 150+ high school and undergraduate students across Canada each year.
- Authored a [textbook on R programming and data science](#) currently used by 150+ students across Canada.
- Collaborating with the Clark laboratory at the Werklund School of Education at the University of Calgary to develop a multi-year research study of the educational effectiveness of the Youreka program.
- Leading a national undergraduate trainee program for educational skills

National Operations Committee Member | Youreka Canada**May 2020 – Present**

- Leading a national talent recognition and mentorship initiative.
- Developing a nation-wide hackathon.
- Managing national short-term strategy and organizational policy.

Vice President of Academics | Youreka Edmonton**May 2019 – Present**

- Lecturing a ten-week program to a cohort of 60 high school and undergraduate students.
- Leading a trainee initiative for promising Vice President of Academics candidates.
- Provided four live video lectures to all Youreka Canada branches (University of Alberta, Calgary, Windsor, Queen's) and created slide sets, worksheets, and Python 3 code on introductory statistics during the COVID-19 pandemic.
- Spearheaded a curriculum bifurcation pilot project for Youreka Edmonton that doubled student enrollment from 30 to 60 students from 2019 to 2020.

Canadian Blood Services | Edmonton, AB

Edmonton NextGen Lifeline Committee

Sep. 2018 – Present

- Recruitment for blood donations and informing the public about blood and stem cell donations.
- Lead developer of a volunteer database framework, digitization and automation of volunteer resources (volunteer contracts, event forms, event data).
- Created a Python 3 Tkinter application that queries and analyzes volunteer contracts from an SQL database.

Vice President Volunteer Resources Committee**Aug. 2020 – Jan. 2021**

- Managed volunteer contracts, writing reference letters, and ensuring volunteer accountability.

Stem Cell Board Coordinator**Sep. 2019 – Aug. 2020**

- Planned and executed Canadian Blood Services' stem cell events (e.g., patient campaigns) with staff and volunteers. There are typically one or two stem cell recruitment events per month.

PROJECT EXPERIENCE**Electroencephalogram (EEG) Visualizer****Apr. 2020 – May 2020**

- The application takes an EEG data stream over a local network and visualizes both the raw and transformed signals in a PyQt5 user interface. The program implements the radix-2 decimation-in-time fast Fourier transform algorithm.

Driving Route Finder**Apr. 2020 – May 2020**

- Developed a route finder where the user can indicate a start and endpoint anywhere in Edmonton using a joystick. A desktop C++ program computes the shortest possible route using the A* algorithm and displays it on an Adafruit 3.5" touchscreen display on an Arduino Mega2560.

CERTIFICATIONS**Concepts in Safety Leadership – Engineering**

University of Alberta

Jan. 2021**Construction Safety Training System (CSTS 2020) – Fundamentals**

Alberta Construction Safety Association

Aug. 2020**Engineering Laboratory Safety Orientation & Training**

University of Alberta

Jul. 2020

Fundamentals of Reinforcement Learning University of Alberta and Alberta Machine Intelligence Institute on Coursera	Mar. 2020
CCAC Training for Animal Users Part II: The Care and Use of the Laboratory Mouse University of Alberta (Research Area: Health Sciences)	Jun. 2019
CCAC Training for Animal Users Part I: Ethics of Animal Use (IAUTP) University of Alberta	May 2019
Concepts in Biosafety 2018 University of Alberta	May 2019
Laboratory and Chemical Safety 2018 University of Alberta	May 2019
WHMIS 2019 University of Alberta	Jan. 2019
Emergency First Aid Level A CPR and AED St. John Ambulance	Jul. 2018
Diplôme d'études en langues française niveau B1 (translation: French studies diploma level B1) Ministère de l'Éducation nationale (translation: Ministry of National Education)	May 2018

HONOURS AND AWARDS

Louise McKinney Post-Secondary Scholarship	Dec. 2019, Sep. 2020
<ul style="list-style-type: none"> Awarded on the basis of superior academic achievement (top 1.5-2% of faculty) to students at the University of Alberta who are also Alberta residents. Awarded for the 2018/19 and 2019/20 academic terms. 	
Dean's Honor Roll, Faculty of Science	May 2019, Sep. 2020
<ul style="list-style-type: none"> Awarded to students at the University of Alberta with a Grade Point Average of 3.5 or higher. Awarded for the 2018/19 and 2019/20 academic terms. 	
Undergraduate Big Data Challenge: Research Excellence Award	Jul. 2020
<ul style="list-style-type: none"> Project titled "Deep learning transcriptomic model for prediction of pan-drug chemotherapeutic sensitivity." Hackathon theme: <i>Personal and Public Health Decisions in a New Open Data Reality</i>. 524 participants across Canada and America. See the manuscript and source code. 	
COVID-19 Data Science Hackathon Post-Secondary Student Award	May 2020
<ul style="list-style-type: none"> Developed an interactive application using a multivariate regression model to better understand the impacts of age, poverty, income, and population density on the spread of the COVID-19 virus. The hackathon was hosted by Alberta Innovates, Cybera, and the Pacific Institute for Mathematical Sciences. 120 individuals and teams competed in the hackathon. Media coverage: University of Alberta story and the Genome Alberta podcast. 	
Sci5 Outstanding Achievement in Science Scholarship	Mar. 2020
<ul style="list-style-type: none"> Awarded to 4 well-rounded students with strong academic achievement, extracurricular involvement, and recommendation letters in the Faculty of Science at the University of Alberta. 	
University of Alberta Undergraduate Scholarship	Sep. 2019
<ul style="list-style-type: none"> Awarded to students with superior academic achievement. 	
T4K Undergraduate Leadership Scholarship	Sep. 2019

- Awarded to students at the University of Alberta with superior academic achievement who demonstrate leadership through involvement and participation in university or community organizations, sports activities, or cultural activities.

Faculty of Science Undergraduate Scholarship**Sep. 2019**

- Awarded to students with superior academic achievement enrolled in the second, third, or fourth year of an undergraduate degree in the Faculty of Science at the University of Alberta.

Sci5 Outstanding Achievement in Science Scholarship**Apr. 2019**

- Awarded to the top 5 students in the Faculty of Science at the University of Alberta who also demonstrate exceptional extracurricular activities.

Alexander Rutherford Scholarship**Aug. 2018**

- Awarded to high school graduates with exceptional academic standing over all three years of high school.

RESEARCH GRANTS**Alberta Innovates Summer Research Studentship****Apr. 2020**

- Grant for summer research project titled “Skin and Nerves: Understanding the dialogue between axons and skin cells to restore sensation.”
- Awarded by the Undergraduate Research Initiative, University of Alberta.

Office of the Provost and VP (Academic) Summer Studentship Award**May 2019**

- Grant for summer research project titled “Axon regrowth and plasticity in diabetic neuropathy: the role of growth cone molecules.”
- Awarded by the Faculty of Medicine and Dentistry, University of Alberta.

CONFERENCES

1. Becker, S., Clark, D., Gupta, M., Kannappan, S., Wong, B., Hernandez-Zavaleta, E., & **Guo, E.** (2021, May 29–June 3). *Deepening Undergraduate Student Understanding of Science Inquiry by Reflecting on the Creation and Enactment of a Citizen Science Project* [Paper presentation]. Canadian Society for the Study of Education.