

# Edward (Eddie) Guo

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**Engineering  
at Alberta**

## Education

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### University of Alberta

Sep. 2020 – Present

Bachelor of Science, Engineering Physics Co-Op (GPA: 4.00/4.00)  
Completed Academic Terms: 4/8  
Completed Co-Op Work Terms: 0/5  
Availability Starting May 2021

### New College, University of Oxford

May 2021 – Aug. 2021

Study Abroad, Magnetic Resonance Imaging and Stem Cell Engineering (GPA equivalent: 4.00/4.00)

### University of Alberta

Sep. 2018 – Apr. 2020

Bachelor of Science Honours, Neuroscience (GPA: 4.00/4.00)  
Transferred to the Faculty of Engineering at the University of Alberta

## Employment

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### Research Assistant

Sep. 2021 – Present

Telerobotic and Biorobotic Systems Group

- Working with MATLAB Simulink code for a lower-limb exoskeleton (Exo-H3) to smooth the transitions between different states (e.g., walking, sitting, standing) based on speech processing of the wearer.

### Teaching Assistant

Sep. 2020 – Present

Introduction to Tangible Computing I & II (CMPUT 274 & 275), University of Alberta

- Providing personalized student support during office hours and class time to a class of 160+ honours computer science and computer engineering students. Topics include data structures and algorithms in Python and C++.

### Research Assistant

Oct. 2018 – Oct. 2021

Zochodne Lab

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

## Scholarly Activities

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### Paper Presentation at the Canadian Society for the Study of Education Conference

Jun. 2021

- Paper titled “Deepening Undergraduate Student Understanding of Science Inquiry by Reflecting on the Creation and Enactment of a Citizen Science Project.”
- Authors: Becker, S., Clark, D., Gupta, M., Kannappan, S., Wong, B., Hernandez-Zavaleta, E., and Guo, E.

### Peer Reviewer for the Muscle & Nerve Medical Journal

Aug. 2020

- Provided a peer review for a bioinformatics paper in the Muscle & Nerve medical journal.

### 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.

## Technical Skills

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**Programming:** R, Python, C++, MATLAB

**Markup and Version Control:**  $\LaTeX$ , HTML, CSS, Git

**Software:** Excel, Word, Powerpoint, FMRIB Software Library

**Certifications:** Class 5 Driver's Licence, WHMIS 2021, Engineering Laboratory Safety, Construction Safety Training System

## Project Experience

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### Interactive Statistics Applications

**May 2021 – Present**

- Created interactive websites with R Shiny for statistical concepts to act as a study resource for my peers.

### Deep Learning Transcriptomic Model for Chemotherapies

**May 2020 – Jun. 2020**

- Used machine learning algorithms with Keras to classify cancer cell responses to chemotherapy.

## Volunteering

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### Youreka Canada

Vice President of Programs, Youreka Canada

**May 2020 – Present**

- Leading the Programs Department to develop the Youreka national curriculum, which provides 15,000+ hours of research and data science education for 200+ high school and undergraduate students annually 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.
- Collaborating with the City of Edmonton Neighbourhood Empowerment Team to address youth unemployment.
- Authored an [interactive e-textbook on R programming and data science](#) currently used by 200+ students across Canada.

Vice President of Academics, Youreka Edmonton

**May 2019 – Jun. 2021**

- Taught a ten-week program to a cohort of 30 high school and undergraduate students.
- Provided introductory statistics lectures to all Youreka Canada branches during the COVID-19 pandemic.
- Spearheaded a pilot project that doubled student enrollment from 30 to 60 students from 2019 to 2020.

## Select Honours and Awards

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### Peter Loughheed Scholarship

**Sep. 2021**

- Awarded to University of Alberta students who demonstrate leadership through involvement in university or community organizations, sports activities, or cultural activities and academic achievement. Valued at \$10,000.

### Louise McKinney Post-Secondary Scholarship

**Dec. 2019, Sep. 2020**

- Awarded to the top 1.5-2% of students based on GPA at the University of Alberta. Awarded twice.

### Undergraduate Big Data Challenge Research Excellence Award

**Jul. 2020**

- Project titled “Deep learning transcriptomic model for prediction of pan-drug chemotherapeutic sensitivity.”
- 180 teams across Canada and United States of America. See the [manuscript and source code](#).

### Alberta Innovates COVID-19 Data Science Hackathon Post-Secondary Student Award

**May 2020**

- Developed an interactive application using a regression model to better understand the impacts of age, poverty, income, and population density on the spread of the COVID-19 virus.
- Media coverage: [University of Alberta Folio article](#) and the [Genome Alberta podcast](#).