Edward (Eddie) Guo

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Education

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

Research Assistant **Sep. 2021 – Present**
Telerobotic and Biorobotic Systems Group

- Project on smoothing locomotion trajectory transitions for lower limb exoskeletons.

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 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

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. Valued at $6,000.

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. Valued at $2,600.

Technical Skills

Programming: R, Python, C++, MATLAB
Markup and Version Control: LaTeX, HTML, CSS, Git
Software: Excel, Word, Powerpoint, FMRIB Software Library

Project Experience

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

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

Peter Lougheed 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.