

Software Development Experience



Scientific Data Analysis

June 2016 – February 2017

- ▶ Developed scientific Python programs for research at Brock University, using packages such as NumPy, SciPy, and Matplotlib
- ▶ Automated data collection involving oscilloscopes, piezoelectric sensors, and accelerometers, significantly improving the efficiency of experiments
- ▶ Increased accuracy and clarity of experimental results through frequency analyses and optimization algorithms
- ▶ Results concluded from the software received Bronze Medal honors at the Canada Wide Science Fair and recognition from the Consulting Engineers of Ontario, Western University, and the University of British Columbia

Open Source Projects & Contributions

July 2017 – Current

- ▶ Developed a proof-of-concept for an American Sign Language recognition software capable of running entirely on smartphone hardware using the Darknet Neural Network framework; Submitted as a group project at Hack the North 2017
- ▶ Improved modulus function functionality in the SymPy computer algebra system source code as well as other bugs
- ▶ Contributed towards the documentation of the Scikit-Learn (Python) machine learning package

Unity3D Game Engine

June 2016 – Current

- ▶ Currently developing a 3D platformer game for both the Android and iOS platforms
- ▶ Introduced dynamic gameplay through the implementation of procedural generation, object oriented programming, and Perlin Noise algorithms
- ▶ Increased game functionality through the manipulation of various smartphone technologies including accelerometers, gyroscopes, and multi-touch

Education & Curriculum Related

September 2014 – June 2017

- ▶ Improved high school student classrooms with the development of an integrated, Java 2D graphing software for high school level math courses
- ▶ Increased functionality of Texas Instruments Nspire graphing calculators through programming using Lua
- ▶ Competed in the 2017 Canadian Computing Competition using Python, achieving the highest score in the DSB of Niagara

Other Work Experience



Physics Research Assistant

June 2016 – June 2017

Brock University – 1812 Sir Isaac Brock Way, St. Catharines, ON, Canada

- ▶ Conducted experiments in the Brock University Physics Department under the supervision of Dr. Thad Harroun, studying the wave nature of mechanical energy transformations in various macroscopic, granular materials
- ▶ Improved upon existing and established new experimental and data analysis procedures through various software and hardware solutions
- ▶ Presented research conclusions and implications at the Canada Wide Science Fair and the Brock University Symposium

Sales / Guest Flow Associate

March 2015 – October 2015

Digital Attractions Inc. – 4530 Drummond Road, Niagara Falls, ON, Canada

- ▶ Took on a variety of roles including crowd management, product sales, and photography/Photoshop

Education



University of Waterloo

September 2017 – April 2022

200 University Avenue West, Waterloo, ON, Canada

- ▶ Bachelor of Software Engineering

Sir Winston Churchill Secondary School

March 2015 – October 2015

Digital Attractions Inc. – 4530 Drummond Road, Niagara Falls, ON, Canada

- ▶ Academic Honors – Governor General's Academic Medal, DSBN Scholar, Honour Roll, Staff Awards, Euclid Mathematics Contest School Champion, Avogadro & Chem 13 News Exam School Champion
- ▶ Leadership – Student Council Treasurer, DSBN Student Senate
- ▶ Athletics – Rowing (Canadian S.S. Rowing Championships Silver Medalist), Junior Varsity Basketball
- ▶ Volunteer – Peer Tutor for SAT testing (40 hours / school year), Camp Counselor at YMCA of Niagara (130 hours total)