MATTHEW OLSSON

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EDUCATION

Brock University *September 2016 - June 2021*
Bachelor of Science in Physics and Mathematics (Honours)

CAREER OBJECTIVE

To gain a wide variety of knowledge (physics, mathematics, economics, music) and be able to cross reference the large subject gap while satisfying curiosities in each topic.

TECHNICAL SKILLS

Computer Programing	Python, RStudio, HTML, SQL
Operating System	Windows, MacOS, Linux (Ubuntu, Redhat)
Lab Equipment	Mechanics lab equipment, optics lab equipment, electronics, turbo and rotary pump, electromagnetic-rotor machine, photo-multiplier tube, multi-channel analyzer, x-ray machine, spectroscope
Certifications	X-Ray Safety, Radiation Safety, Brock University Science Safety Training, WHMIS Training, Health & Safety Awareness Training

SOME PROJECTS & EXPERIENCE

Battle Modelling: Used Lanchester's Law, and the solutions to it to create a model and battle simulator. The equations contained a basic amount of variables (initial number of troops, replenishment) to obtain an estimate of the battle. The simulator could be ran on a day by day basis or by entering in the total amount of days to be simulated. This project was done in the language VB.NET.

Using Monte Carlo Simulation to Mimic Cosmic Radiation Damage: My undergraduate thesis entailed running Monte-Carlo simulations of X-Ray particles to be ran through a model mouse. Different materials in front of and behind the mouse will also be tested in measure dosage, etc. OpenSCAD will be used for modelling the constituents and vGATE will be used for particle simulations. This will all be done to aid a professor studying musculoskeletal damage from spaceflight. This project utilized Python to a great deal for graphing, summation of simulations, and statistics. Under the supervision of Dr. Harroun.

Integrating Data Analytics into Brock Esports: A personal project taken up with the Brock Esports club. The project entails integrating data analytics into the teams to do the following tasks: determining necessary data points and collecting them from the game, organizing & processing the data, applying the data to different models and techniques for analysis, generating an output in an easily understandable format for the teams, team leaders, and other analysts. Later plans for the data analysis team will be to use the seasons data to incorporate SQL and other real industry tools.

ACHIEVEMENTS

GCMHA Norm Mussat Award	2016
Brock University Physics Enrichment Program	2017
First Ontario Credit Union Education Award	2017
Brock University Deans List	2017

HOBBIES

Music production, sound design and synthesis

Interest in the Esports industry, from playing to data analysis to business intelligence

Recent physical hobbies include hockey, running, as well as movement based training