Christina Pizzonia

647-740-6134 • Email • LinkedIn • GitHub • Portfolio

EXPERIENCE

Summer Research Student   May 2022 - Aug 2022
Passeport Lab   *Toronto, ON*

- Processed stormwater samples via density separation and organic digestion (in accordance with lab SOPs) and identified microplastics via FTIR spectroscopy to provide data for publication
- Analyzed microplastic content data in Microsoft Excel to determine sources of error & improve accuracy of counting methods by $\approx 50\%$
- Performed a literature review (15 papers) on organic contaminant extraction methods and presented findings to 2 lab teams at the university

Research Assistant   May 2021 - Nov 2021
SickKids Hospital   *Toronto, ON*

- Created and presented figures using BioRender to illustrate the mechanisms behind current advances in cancer immunotherapy to incoming undergraduates

Tutor   Mar 2021 - Present
Self-Employed   *Toronto, ON*

- Have improved student scores by over 25% in Calculus I/II

PROJECTS

CNN-LSTM Stock Price Model [GitHub]: Used YahooFinance price data to perform data analytics (10-day EMA, daily return %) and train an CNN-LSTM model to predict prices with over 92% accuracy

Bindicator! [GitHub]: Used waste collection data from OpenData to program a microcontroller to automatically update an LCD & LEDs with the waste type(s) being collected based on current time and location

Space Invaders [GitHub]: Worked with a partner to implement the retro arcade game Space Invaders in Verilog; project was deployed on a DE1-SoC FPGA connected to an external monitor (with a VGA adapter)

Autonomous Robot [GitHub]: Designed and programmed an autonomous, line-following robot using Fusion360/AutoCAD and microcontrollers to navigate a track using a bang-bang control algorithm

Manhattan Plots [Results]: Performed a GWAS in a team to determine single nucleotide polymorphisms influencing ERAP-2 expression in Germanic vs. Yoruba individuals in R with 1000 Genomes Project data

SKILLS

Low-Level Languages	Verilog (in Quartus), C/C++, ARM Assembly
Data Analytics & ML	Python (inc. TensorFlow, Scikit-learn), MATLAB, R
Web Development	HTML, CSS, JavaScript
Tools	LaTeX, Microsoft Office, Git, VSCode, AutoCAD, LTSpice

EDUCATION

BASc, Electrical Engineering + PEY Co-Op, University of Toronto   2022 - 2027

- Signals, controls, communication & electronics (analog, embedded systems design)
- Dean's Honours List (cGPA: 3.98/4.00), WiSE Mentorship

Study Abroad, University of Siena   Summer 2023

- Website (in progress) used to document my experiences studying in Italy