

Christina Pizzonia

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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, C/C++, ARM Assembly

Data Analytics & ML

Python (inc. TensorFlow, Scikit-learn), MATLAB, R

Web Development

HTML, CSS, JavaScript

Tools

L^AT_EX, Microsoft Office, Git, VSCode, AutoCAD, Multisim/LTSpice

EDUCATION

Bachelor of Applied Science, Electrical Engineering, University of Toronto

2022 - 2027

- Signals, communications & electronics (analog, digital, embedded systems design)
- Dean's Honours List (cGPA: 3.97/4.00), WiSE Mentorship

Study Abroad, University of Siena

Summer 2023

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