

Christina Pizzonia

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EDUCATION

- BASc, Electrical Engineering + PEY Co-Op**, University of Toronto 2022 - 2027
- Signals, controls, communications & electronics (analog, embedded systems design)
 - Dean's Honours List (cGPA: 3.98/4.00), WiSE Mentorship
 - Study Abroad @ the University of Siena, [website](#) (under development) used to document my experiences
- Ontario Secondary School Diploma**, University of Toronto Schools 2015 - 2021
- Governor General's [Medal](#) (highest cumulative average)

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 data in Microsoft Excel to determine sources of error & improve accuracy of counting methods by $\approx 50\%$
 - Performed a literature review on contaminant [extraction](#) and presented results to 2 academic labs
- 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*
- Create personalized lessons for diverse learning styles; have improved scores by $> 25\%$ 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

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| 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 | L ^A T _E X, Microsoft Office, Git, VSCode, AutoCAD, LTSpice |