Christina Pizzonia

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Focused, results-driven EE student interested in signal processing and electronics (analog + digital design). Over 3 years of experience in software development and technical research. Enjoy using engineering design to solve problems in everyday life.

EDUCATION

BASc, Electrical Engineering + PEY Co-Op, University of Toronto ⟶ 2022 - 2027
- Relevant coursework: Signals and systems, computer organization, electronic devices
- Dean's Honours List (cGPA: 3.98/4.00)

SKILLS

Languages	Verilog (in Quartus), C/C++, Python (inc. TensorFlow, Scikit-learn), MATLAB, R
Tools	LaTeX, Microsoft Office, Git/GitHub, VSCode, AutoCAD, LTSpice/NI Multisim
Soft Skills	Written and oral communication, technical research, project management

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 mechanisms behind current advances in cancer immunotherapy from highly-cited papers in Nature, JAMA, etc.
- Slides were shown to all incoming undergraduates to highlight the fundamentals required for their work

Tutor ⟶ Mar 2021 - Present
Self-Employed ⟶ *Toronto, ON*
- Create personalized lessons and study schedules for high-school and university students; have taught over 50 students and improved scores by $> 25\%$
- Have grown my regular client-base from 0 to 15 students per week through targeted advertising (posters, promotional emails) and positive referrals

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