

Samarpreet Bhatti

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PROFESSIONAL EXPERIENCE

Low Temperature Electronics Research Assistant

Jan 2024 - April 2024

The University of Waterloo - Dr. Jan Kycia's Lab

Waterloo, Canada

- Working on and modifying an ultra-low noise differential amplifier
- Running noise tests with a spectrum analyzer and verifying that the circuit functions properly
- Working with various lab tools, and machining tools including a waterjet, a spectrum analyzer, an oscilloscope,

Laser Cooling Electronics Research Assistant

May 2023 - Present

The University of Waterloo - Dr. Jim Martin's Lab

Waterloo, Canada

- Creating PCBs, including schematic layout, PCB layout, and soldering electronic components
- Cutting, 3D printing, and prototyping box panels and PCB electronic parts using CAD software such as Inventor
- Testing PCBs and familiarity with SPICE simulations in KiCAD
- Experience testing electronics, using lab equipment, common machining tools, git version control, and the Linux OS

Microwave and Microfluidics Research and Development Engineering Assistant

September 2021 - Present

University of Waterloo - Dr. Carolyn Ren Microwave and Microfluidics

Waterloo, Canada

- **Co-authoring at least one paper to be published in a journal, potentially 2 papers**
- Assist in the design, fabrication, testing, and troubleshooting of microwave microfluidic sensor prototypes using many experimental methods and multiple CAD software
- Conduct research for literature reviews and to support sensor development and assist with preparing technical reports and presentations.
- Conduct simulations and compare results with experimental data and data analysis to optimize sensor performance.
- Maintain accurate records of experimental procedures, results, and observations.
- Conduct simulations and compare results with experimental data to optimize sensor performance.

EDUCATION

Candidate for Honours Co-operative Mathematical

September 2022 - May 2027

Physics

The University of Waterloo

Waterloo, Canada

VOLUNTEER EXPERIENCES

UW Astronomy Club

July 2023 - Present

Vice President of Finance

Guelph, Canada

- Manage budget, and allocate funding for events
- Attend events and lead meetings, plan future events, and allocating spending for the club based on estimated funding

SKILLS

CAD Software - Including **KiCAD**, **FreeCAD**, **Inventor**, **Advanced Design Systems (ADS)**, **Ansys Electronics (HFSS)**, **Labview Familiarity**, **QCAD**, **Blender** and **SolidWorks**

3D Printing Experience- Including working with **Voltera's Nova**, **Standard 3D Printers**, and **Resin Printing**

Python - Including **Numpy**, **Matplotlib**, **Tkinter**, and **klearn Familiarity**

Microsoft Office - Including **Word**, **Excel**, **Teams** and **Powerpoint**

C & Java

Bash & Linux Command Line

Git & GitHub