

# Ri Hong

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## SKILLS

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**Languages:** Python, Java, C/C++, HTML/CSS, JavaScript (Node, React), Racket, LaTeX

**Technologies:** Git, VSCode, Android Studio, Arduino, IoT, Bluetooth, Raspberry Pi, Serial Hardware Communication

## WORK EXPERIENCE

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**Microgreen Solar Corp.** **Software Developer | Toronto, ON | Summers 2019-2022**

- Implemented an HMI GUI using C to display key information about a battery (currently being used by **100+ customers**)
- Developed an iOS bluetooth app to send and retrieve data from a battery management system
- Developed an Android app to interface with a raspberry PI to transmit data to an AWS service
- Developed an Android app to read data via bluetooth from an ESP 32
- Wrote the code for the ESP 32 module which read data from an inverter using serial communication

**Microgreen Solar Corp.** **Technical Intern | Toronto, ON | Summers 2019-2022**

- Worked with electronics including soldering, cable assembly
- Tested, repaired, and performed maintenance on inverters
- Assembled and prepared components for EnergyPak lithium batteries
- Created cable harness drawings using the WireViz Python package

## PROJECTS

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**Smart Door Lock**  **Arduino (C++), Android Studio (Java), IoT | April 2021**

- An ESP 32 module with an LCD display, pin pad, and servo to lock/unlock a door
- Comes with a companion Android app to remotely toggle the lock, monitor the state of the lock and check the log of users which activated the lock. The system allows for multiple users with unique pins to be recognized.
- Communicates over IoT MQTT

**Computer Science Club Website**  **ReactJS, Firebase | May 2021**

- The official website of Bethune C.I.'s computer science club
- Lead developer of a team of 4
- Firebase used to authenticate executives and Firestore database used to store announcements, executives, and projects

## AWARDS

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**INSPIRE Award at the 2022 First Tech Challenge (1 of 24 teams)** **March 2022**

- Worked in a **team of 20** to design, code and build a robot
- Most prestigious award of the competition, awarded to the team which best serves as the role model for other teams, and best embodies the 'challenge' of the competition

## EDUCATION

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**University of Waterloo** **Bachelor's of Computer Science (Co-op) • 2022 – Present**

- Specialization in Artificial Intelligence, Software Engineering, and Digital Hardware
- 87% average