VIKRAM N. SUBRAMANIAN

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EDUCATION

UNIVERSITY OF WATERLOO- **Software Engineering**, Honours

SKILLS

- C, C++ ,Python
- SQL,Git, URScript(for UR Robots)
- RFID system setup, programming and tuning
- Basic Machining and soldering

EXPERIENCE

TRILOGY TECHNOLOGIES- ROBOTICS INTERN — APRIL 2018- AUGUST 2018

- Programmed a **UR5 robotic arm** from scratch in **Python** to arrange books in a library and pitched the product to multiple customers.
- Implemented a **RFID system** for the robot to identify the location of unique books.
- **Improved accuracy** of the RFID **location identifying algorithm** from ± 9 to ± 5 unique tags.
- Designed and implemented a system to **power and automate the AGV** carrying the robotic arm.
- Built a 50V Li-ion battery pack from individual 18650 Li-ion cells and manually converted the robotic arm from AC to DC power.

SWAG LAB, UNIVERSITY OF WATERLOO- RESEARCH ASSISTANT — JAN 2019-APRIL 2019

- Curating digital artifacts(tools and scripts) from software engineering research papers
- Communicating with authors for ideation exchange.

PROJECTS

AUTOMATED GARDEN IRRIGATION SYSTEM - bit.ly/2QGdwXW

- Designed an automatic irrigation system based on weather data with **Python**.
- Used a **Raspberry Pi** and a **relay switch** to control a solenoid valve.
- Used Google's **Geocoding API** and **Dark Sky API** to get coordinates and weather data.Used **Agro API** for soil data.

TWEET SENTIMENT ANALYSER - bit.ly/2SO5aPO

- Created a Twitter bot that takes a topic and returns the 'mood' for that topic by parsing Tweets.
- Used Pythons **Textblob NLP Engine** and the **Twitter API**. GUI was developed using **TKinter**.

TETRIS - bit.ly/2SO5aPO

- Implemented Tetris using OOP in **C++**
- Used multidimensional arrays and linear algebra to define pieces and the board, to rotate/translate pieces and to check for collisions.

DRONES/MODEL PLANES DESIGNER AND BUILDER

- Built, programmed and flown over **15** model planes and drones.
- Set up a **live video relay system** (FPV Technology) to fly drones remotely.
- Designed an original R/C plane with a wingspan of 1.5m and **thrust to weight ratio of 0.7:1** at full throttle