VIKRAM N. SUBRAMANIAN

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SKILLS

- Python, C, C++
- SQL, Git, Linux
- 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** in **Python** to arrange books in a library.
- Programmed a remote control unit for the robotic arm and made it semi-autonomous.
- Pitched the product to multiple customers and created documentation.
- Implemented a **RFID system** for the robot to identify the location of unique books.
- Improved accuracy of the RFID **location identifying algorithm** by 40% .
- 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

- Designed an automatic irrigation system based on weather data using **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

- Created a Twitter bot that analyses topics and returns the 'mood' for it by parsing Tweets.
- Used Python's **Textblob NLP Engine** and the **Twitter API.**

TETRIS

- 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 AND MODEL PLANES

- Designed, programmed and flew over 15 model planes and drones.
- Set up a **live video relay system** (FPV Technology) to fly drones remotely.

EDUCATION

UNIVERSITY OF WATERLOO- **Software Engineering**, Honours 2018-2023