j2662li@uwaterloo.ca
647-282-5895
jeffreyli0312
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JEFFREY LI

SKILLS/TOOLS

- Python
- C/C++
- Java
- OpenCV
- MongoDB
- SQL/MQL
- JavaScript
- React
- Node
- HTML
- VBA
- KNIME
- Snowflake

EDUCATION

University of Waterloo
Bachelor of Applied Science, Mechatronics Engineering
Sept 2021 – Present

Relevant Courseware:

- Digital Computation (C/C++)
- Data Structures and Algorithms (C++)
- Microprocessors and Digital Logic

INTERESTS

- Table Tennis
- Programming
- Violin
- Painting
- Sewing
- Fashion
- Fitness

WORK EXPERIENCE

Day5 Analytics Inc.
Robotic Process Automation Analyst | *Sep 2022 – Dec 2022*

- Programmed **Python** scripts that optimized internal Visual Basic for Applications (**VBA**) apps by automating Excel cell validation using pattern matching, **increasing efficiency by 300%**
- Designed **4 user interfaces** using the KNIME Analytics Software that were able to view, edit, log, and update all database tables by executing **SQL Queries** with **recursive validation**
- Developed a relational **Snowflake Cloud Database** by creating over 150 dimension and fact tables, as well as audit logging, views, and metadata with primary and foreign keys

Waterloo Aerial Robotics Group (WARG)
Computer Vision Software Developer | *Jan 2022 – April 2022*

- Worked within a **Computer Vision** team to develop a remotely controlled aircraft using **Python**, **multiprocessing**, **NumPy**, thoroughly tested with **integration** and **unit tests**
- Engineered tracking geography using the **Maps JavaScript API** that detected and composed an intruder path from a stream of location data using the **OpenCV** computer vision library
- Assisted in the development of the Ground Control Station for drone communication by ingesting byte array message payloads, encoding and decoding them to/from hexadecimal into formatted messages of ASCII code, created with **C++** and **Qt GUI framework**

TECHNICAL PROJECTS

Medi-Scanner | *October 2022*

- Developed a **Flask REST API** that detected medical burns by integrating a **machine learning model** with computer vision OpenCV to determine first, second, third, or no degree of burns with results of over **80% accuracy** rate using **Python TensorFlow**
- Constructed a frontend **GUI website** prompting users with image file selection or camera activation options using **HTML** and **JavaScript**

BeSuccessful | *November 2022*

- Designed the UI website for BeSuccessful using the MERN stack (**MongoDB, Express, React, Node**) that validates user login, saves daily task logs, and returns a list of requirements for any career position input using **ReactJS**, **HTML**, and **Cohere API** as natural language processing in Python

Java Client Data Recording System | *June 2021*

- Implemented **class hierarchies**, **object-oriented design**, **inheritance**, and **polymorphism** to store client information input and manipulate client statistics
- Designed functions that mutated objects using unique **algorithmic searching** and **sorting** methods

TRS Nexus Robotics Tournament Regional Finalists | *August 2019 – March 2020*

- Programmed robots with VEX Robotic components that autonomously stacked cubes over 5 feet tall
- Assembled **anti-tip mobility system** under the robot to counteract uneven weight distribution and eliminated risk of robot from tipping over by **~95%**
- Lead robot control driver and key drive team member to achieving **2nd** in regional **Provincial Qualifications** tournament