Khalil Virji

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EDUCATION

McGill University   Montreal, QC
M.Sc. in Computer Science - under supervision of Dr. Gregory Dudek   *09/2022 - Present*
  - **Research**: Robotics, Reinforcement Learning, Computer Vision, Machine Learning, Planning and Navigation

B.Sc. Major Mathematics and Computer Science   *09/2017 - 05/2022*
  - **Coursework**: Artificial Intelligence, Algorithms, Data Structures, Probability, Statistics, Software Design

EXPERIENCE

McGill Mobile Robotics Lab | Graduate Researcher   Montreal, QC
ROS, Python, C#, C++, MATLAB   *09/2022 - Present*
  - Research on traditional and deep reinforcement learning methods for robust marine robotic control
  - Built and designed a system for underwater scuba diver tracking and recovery using low-cost components

Compost Montreal | Software Developer   Montreal, QC
Shopify, Liquid, Javascript, HTML, CSS   *05/2022 - Present*
  - Lead developer responsible for improving and maintaining a Shopify online store
  - Optimized multilingual SEO by reworking how the store markets to customers in both English and French

ColorKarma | Software Developer   Westford, MA
Node.js, Express.js, MySQL, Angular   *05/2022 - 09/2022*
  - Improved readability and scalability of a web platform by implementing a route-controller-service architecture
  - Enhanced my capacity to articulate technical ideas by managing an overseas front-end development team

CloudOps | Cloud Developer   Monteal, QC
Java, Spring Boot, MySQL, Vue.js, Spock, Jest   *05/2021 - 09/2021*
  - Developed features on a public facing API that integrates with AWS, Azure, and Google Cloud platforms

Sensequake | Web Developer   Montreal, QC
Node.js, Express.js, MongoDB, jQuery, HTML, CSS   *5/2020 - 09/2020*
  - Built an improved web platform to visualize and understand raw sensor data, decreasing latency by over 50%
  - Developed commands to interact with sensors and produce real-time vibration plots
  - Implemented an automated modal analysis algorithm using machine learning techniques from selected papers

PUBLICATIONS

 Lotfi, F., **Virji, K.**, Dudek, G., *Robust Scuba Diver Tracking and Recovery in Open Water Using YOLOv7, SORT, and Spiral Search*, CRV, 2023

PROJECTS

Automated Temperature and Humidity Monitoring   2021
Arduino, Node.js, MongoDB, ESP32, RHT03 sensor   *https://khalilv.github.io/temperature.html*
  - Implemented an automated temperature and humidity monitoring system to limit food waste in restaurants

RFID Touchless Checkout System   2020
Java, Arduino, UHF RFID Technology, HC-SR04 ultrasonic sensor   *https://khalilv.github.io/rfid.html*
  - Engineered a checkout system that can accurately and simultaneously scan items in grocery carts

Legends of Andor   2020
Java, XML, Spring Boot, Android Studio   *https://khalilv.github.io/legendsofandor.html*
  - Developed a multiplayer, turn-based, mobile game for Android devices with an in-game chat room