Jackie Le

604-318-4795 jackiele.ca jddle@uwaterloo.ca github.com/jackiele123

Technical Skills

Languages: C++, C, C#, JavaScript, TypeScript, Python, HTML, CSS, Dart
Frameworks/Technologies: React.js, Flutter, Bootstrap, Node.js, Three.js, Docker, GitHub, PostgreSQL, Matplotlib, TensorFlow, ChatGPT
Software/Tools: VSCode, SolidWorks, Inventor, Ultimaker Cura, Jira Confluence, SourceTree, Linux

Experience

Unity VR Developer **Apr. 2023 – Aug. 2023**
EXO Insights *Waterloo, ON*

- Collaborated with the Art and UX team to develop a full-scale, functioning game simulation of a power plant for **VR/PC** with over 100 unique interactive objects, enhancing the development of employee training modules.
- Spearheaded the creation of a VR training program for employee procedures, programming features for task progress, hints and dynamic object interactions using **C#**.
- Utilized MirrorNetworking to develop a collaborative **multiplayer** platform, enabling users to jointly spectate and engage, thus simulating more lifelike training scenarios.
- Engaged in bi-weekly client meetings, presenting milestones and assimilating feedback to improve the project.

Software/Robotics Engineer **Sept. 2022 – Dec. 2022**
Mission Control Space Services *Ottawa, ON*

- Established an authentication system using Ory and **REST API** to safely deploy a web application for client use.
- Designed a front-end GUI that controls robotic arms using **C++, HTML, SCSS, Typescript** and **Solid.js** to offer students an engaging educational experience.
- Utilized the company's proprietary version of **Node.js** to handle communications between the GUI, Robotic Arms, and other company technologies.

Mechanical/Software Design Lead **Sept. 2017 – June 2021**
Vex Robotics Competition *Surrey, BC*

- Achieved **1st in the World** for programming.
- Programmed in **C++** an autonomous robot that used Odometry with PID Loops and Encoders to track orientation within 1° and position within $\frac{1}{2}$ inch.

Projects

6DOF Robotic Arm | https://project.jackiele.ca | *SolidWorks, Three.js, Javascript, HTML, CSS, C++* **Apr. 2023**

- Created an interactive 3D portfolio website using **Three.js**, designing GUI control features and animations to showcase the design and capabilities of the robotic arm.
- Developed classes and methods to import CAD models from **SolidWorks** for use in animating individual components.
- Utilized Three.js and **Javascript** to simulate the robot arm, for developing the inverse kinematic algorithm.
- Experimented with 3D Printer firmware (Marlin) using **C++** to program a web interface for precise stepper motor controls, streamlining debugging processes.

Cross-Platform Measurement App | *Flutter, Dart, WebSocket, ESP32, 3D Printer, CAD* **Mar. 2023**

- Developed a **cross-platform mobile app** using **Flutter** and **Dart** to communicate with an **ESP32**-based measuring device via a **WebSocket** Server.
- Designed and **3D Printed** a custom measuring device incorporating a potentiometer and a wheel for accurate distance measurements ±0.5mm.

Sign Language Translator | *Machine Learning, TensorFlow, Keras, MediaPipe, Python* **Oct. 2022**

- Developed a **Machine Learning** model using **TensorFlow** to translate sign language through a live video feed.
- Designed scripts in **Python** to collect, analyze and display data to produce datasets that increased accuracy by 12%.
- Integrated **Computer Vision** using **OpenCV** to create a program that compares and displays the live video performance of multiple models, producing optimal models faster.

My Personal Website | https://jackiele.ca | *React.js, CSS, JavaScript, HTML, GitHub* **Apr. 2022**

- Designed a dynamic application using **React.js** and **CSS** to provide an overview of my experience and skillset.
- Utilized **React Bootstrap** to create a website that easily connects people to my projects, skills, and accomplishments.