**FIRST NAME LAST NAME**

**UBC ENGINEERING PHYSICS CO-OP, 3RD YEAR**

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| **604-555-5555** | [**test@test.com**](file:///C:\Users\cwmckinn\Desktop\test@test.com) | [**Portfolio**](file:///C:\Users\cwmckinn\Desktop\link.com) | [**Github**](file:///C:\Users\cwmckinn\Desktop\link.com) | [**LinkedIn**](file:///C:\Users\cwmckinn\Desktop\link.com) |

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| **SUMMARY OF QUALIFICATIONS** |

* **Strong Technical Expertise**: Proficient in C/C++, Python, Java, and PLC programming, with experience in ROS, Linux, and embedded systems development.
* **Prototyping & Hardware Development**: Experience with 3D printing, oscilloscopes, soldering, Altium Designer, and KiCad for circuit design and rapid prototyping.
* **Hands-on Engineering Experience**: Developed automated testing jigs, designed PCBs, and optimized mechatronics systems during an automation engineering co-op at Kardium.
* **Effective Collaborative & Problem-Solving Skills:** Contributed to UBC Supermileage’s propulsion system, analyzing and manufacturing high-performance components for competition.
* **Robotics & Mechatronics Experience**: Hands-on experience designing automated systems, developing real-time algorithms, and integrating hardware/software solutions.

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| **SKILLS** |

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| **Programming/Tools** | C/C++, PLC, Python, C#, Java, ROS, Linux, TensorFlow, Git, .NET, VHDL, Arduino |
| **Simulation/Modelling** | MATLAB & Simulink, Gazebo, Multisim, Excel, SolidWorks, Onshape |
| **Prototyping** | Altium Designer, KiCad, 3D printing, Oscilloscope, Function generator, Soldering, |

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| **TECHNICAL EXPERIENCE** |

**Automation Engineering Co-op**

**Kardium**, Burnaby | May 2023 - Dec 2023

* Engineered a custom jig that automated high-current pulse testing of relay switches, improving testing efficiency and reliability for Kardium’s Globe AFib system.
* Programmed a PLC to seamlessly control jig operations and developed host software using the .NET Framework, enhancing system integration and user interface functionality
* Gained hands-on experience in mechatronics system design, PCB design, and machining, contributing to the optimization and development of complex technical systems.
* Developed a real-time vehicle turn classification algorithm on an embedded-ML chip, achieving 95% precision in distinguishing left and right turns, optimizing system performance and decision-making.
* Conducted firmware experiments to identify and rectify time drift issues between the gyroscope and system clock.

**Drivechain and Propulsion Team Member**

**Supermileage**, UBC | May 2023 - Dec 2023

* Engineered a direct drive system using SolidWorks FEA, resulting in an 8x increase in system resiliency and performance.
* Conducted detailed analysis of novel toroidal propeller designs using SolidWorks CFD, providing critical insights that reinforced the decision to continue with a conventional propeller.
* Manufactured high-performance propellers through 3D printing, contributing to the team’s success in a competitive setting.

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| **PROJECT EXPERIENCE** |

Simulated License Plate Detecting Robot

* Successfully built an autonomous robot capable of traversing an obstacle course, picking up and storing small objects, with features including PID IR beacon tracking, bridge deployment, and object retrieval
* Programmed an STM32 microcontroller in C++ to ensure smooth operation of stepper motors and lead screws, enhancing robot precision and functionality
* Trained a Convolutional Neural Network (CNN) using TensorFlow to accurately identify license plate characters, achieving over 95% accuracy

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| **EDUCATION** |

**BASc in Engineering Physics, 3RD Year**

**UBC**, Vancouver

* Key Courses: Software Construction, Digital Systems and Microcomputers, Applied Complex Analysis