Peter Parker

(647) 012 – 3456 | parkerp33@mcmaster.ca | linkedin.com/man_spider33 | github.com/man_spider_33

Education

Honours Bachelor of Health Science Co-op (BHSc) | *Engineering & Health Science* **2024 – 2028**

McMaster University

- **Honors:** Deans List Award (3.9/4.0 CGPA)
- **Thesis:** Accuracy of machine learning algorithms in predicting emergency department workloads
- **Relevant Coursework:** Modelling of Biological Systems, Medical Imaging, Statistics & Epidemiology, Biomedical Signals & Systems, Project Management, Business Strategy

Professional Experience

ICU Placement | *St. Joseph's Hospital, Hamilton ON* **Oct 2027 – Feb 2028**

- Partnered with ICU clinicians to develop a solution to reduce infection and disease transmission within healthcare settings
- Designed a biosensor-based detection system that uses colorimetric sensor arrays, pH-sensitive dyes and microfluidics to detect bacterial metabolic byproducts with 85% accuracy
- Programmed a Raspberry Pi-based alert system to notify staff via mobile app when contamination thresholds were exceeded, improving response time by 60%
- Maximized efficacy of disinfectant tools, reducing overall costs for sanitation by 7% in a trial week

Wet-lab Research Assistant | *Department of Biochemistry, McMaster University* **May - Aug 2026**

- Investigated enzyme-substrate interactions in metabolic pathways, contributing to a project on allosteric regulation mechanisms
- Purified recombinant proteins using affinity and size-exclusion chromatography, increasing yield consistency by 40%
- Conducted kinetic assays and analyzed data using Excel, improving assay reproducibility by 25%

Projects

Lower-body Exoskeleton | *McMaster University Exoskeleton Design Team* **Oct 2026 - Present**

- Developed real-time control algorithms and sensor integration for lower-limb exoskeleton to compete in University of Michigan's ACE Exoskeleton Competition
- Programmed microcontrollers (Arduino, STM32) to interface with IMUs, force sensors, and actuators, enabling precise gait phase detection
- Designed and implemented a closed-loop feedback system using MATLAB and C++, enhancing user stability and reducing error rate by 25%

Skills

Software: Python, C/C++, Java, Autodesk Inventor, SolidWorks, MATLAB, Simulink, Excel, MS Office, GSuite

Lab Skills: Molecular Cloning, Fluorescence Microscopy, Flow Cytometry, Spectroscopy, Hydrogels

Certifications: CPR & Standard First-Aid Certification, Clinical Safety Training, G-class driver's license