

MAXWELL MCINNIS | B.ENG

TORONTO, ON | [MAXWELLMCINNIS.COM](https://maxwellmcinnis.com) | MAXWELLMCINNIS123@GMAIL.COM | [WWW.LINKEDIN.COM/IN/MAXWELLMCINNIS](https://www.linkedin.com/in/maxwellmcinnis)

PROFESSIONAL SUMMARY

Biomedical engineering graduate specializing in software-driven medical systems, mechanical design, and integrated hardware, software systems. Experience spanning CAD-based product development, embedded sensing, full-stack engineering, and cloud infrastructure. Proven track record designing and commercializing devices while building scalable ERP/CRM and R&D automation platforms. Focused on advanced research and development at the intersection of biomedical engineering, intelligent systems, and data-driven healthcare technologies. See my projects in my Portfolio:

MaxwellMcInnis.com

EDUCATION

B. Eng Biomedical Engineering 2021-2025
University of Guelph, *Guelph, ON*
Publication: <https://pubmed.ncbi.nlm.nih.gov/40347002/>

PROFESSIONAL EXPERIENCE

R&D Engineer & Operations Manager, Kraken Sense, *Oakville, ON* | April 2025 – Current

Lead product lifecycle coordination across hardware, chemistry, and device systems with focus on software engineering, product development, and technical R&D. Designed and commercialized device hardware while building core digital infrastructure (ERP, AI CRM, scientific R&D software) to scale engineering and lab operations.

- Designed and commercialized accessory hardware including full mechanical CAD (Autodesk Inventor), fluidics systems (peristaltic pumps, chemical compatibility, flow control), PCB and sensor integration, manufacturability planning, and lifecycle cost modeling.
- Performed device validation, test engineering, and failure analysis while developing automation and sensing control software using Python-based control logic and embedded system integration.
- Built and deployed internal engineering software including ERP, AI-automated CRM, and qPCR primer design automation using Python, FastAPI, PostgreSQL, REST APIs, and cloud deployment (GCP Cloud Run, Docker, Linux), possible of creating a **~100% increase in operational visibility, ~2–3× lab processing capacity, ~50–80% reduction in assay preparation time, and ~30–50% faster R&D iteration cycles.**
- Developed full-stack internal tooling using Node.js, React, Next.js, and SQL data systems supporting engineering, lab, and production workflows.

Web Designer, Self | -Employed, | April 2025 – Current

Independent full-stack web developer building scalable, high-performance web platforms for startups and small businesses to enhance digital presence and operational efficiency.

- Delivered 6+ custom full-stack applications using React, Next.js, Tailwind CSS, FastAPI, and Python, **increasing client visibility and lead generation by up to 60%**
- Designed RESTful APIs and PostgreSQL-backed data models using Neon, implementing authentication and optimized query structures to improve performance and scalability
- Deployed production applications to Vercel and Render, ensuring reliable uptime, CI/CD integration, and streamlined cloud deployment workflows

Engineering Administrator, Walinga, *Guelph, ON* | January 2025 – April 2025

Engineering Administrator at Walinga overseeing R&D coordination, workflow automation, staff allocation, reporting systems and SR&ED documentation to accelerate project delivery and secure tax credits.

- Streamlined workflows and systems, cutting delays and improving collaboration across engineering teams.
- Managed schedules and allocations for 15+ staff, **accelerating project delivery by 20%**.
- Led interviews with accountants and directly represented Walinga in CRA audits, securing over **\$250K in SR&ED tax credits**
- Automated engineering scheduling using MariaDB and Power BI, transforming a **4-hour manual task into a zero-time workflow** & creating live KPI dashboards to track output, resourcing, and progress across all active projects.

Engineering Researcher, University of Guelph, *ON* | April 2024 – April 2025

Conducted hands-on research in biomedical engineering with a focus on wearable sensors, biomechanics, and sustainable materials.

- Designed and tested sensor-based wearable devices for gait correction, using ESP32, IMUs, and vibration feedback systems.
- Developed signal-processing algorithms for real-time feedback and calibrated IMU drift using sensor fusion methods.
- Led experimentation schedules and coordinated tasks across a small research team to ensure timely publication outcomes.
- Contributed to sustainability-focused projects, transforming Miscanthus wastewater into materials like vegan leather and detergents, and presenting findings at research conferences and successfully coauthoring a published paper.

Accountant/Bookkeeper, Concorde Accounting & Tax, *Guelph, ON* | May 2024 - August-2024

Supported client intake, documentation, and administrative workflows during peak tax season. Ensured accuracy, confidentiality, and speed in a high-volume, deadline-driven environment.

- Processed tax documents for **100+ clients**, verifying accuracy and completeness under tight turnaround times.
- Maintained organized digital and paper records while handling sensitive financial data with discretion.
- Coordinated client communications, appointment scheduling, and file tracking using in-house systems.

Municipal Staff, City of Pickering, *Pickering, ON* | 2022-2023

Progressed from front-line service to operations leadership, driving efficiency and team performance across multiple locations.

- Advanced from entry-level to trusted lead in field operations, supporting infrastructure upkeep and team coordination.
- Maintained city parks and public assets, ensuring safety, quality, and aesthetic standards across 20+ locations.
- Mentored seasonal staff and optimized task delegation to streamline daily site operations and reduce downtime.

Crew member, Bartlett Family Restaurants, *Pickering, ON* | September 2018 – July 2021

Progressed from front-line service to operations leadership, driving efficiency and team performance across multiple locations.

- Delivered fast, accurate service **to 500+ customers daily**, ensuring high satisfaction scores.
- **Trained and developed 20+ staff**, improving team productivity and service consistency
- Helped optimize intake procedures by identifying bottlenecks and standardizing form processing.