

Daniel Wilson

Markham, ON

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<https://wilsonndaniel.github.io/html-portfolio/index.html>

SUMMARY

Mechatronics Engineering student with practical industry experience in transformer manufacturing and process optimization. Strong hands-on background in embedded systems, 3D modeling, and product prototyping. Proven ability to take projects from concept to functional prototype using SolidWorks, Arduino, and PCB design.

SKILLS

- CAD & Design: Advanced SolidWorks and AutoCAD user; experienced with GD&T and orthographic drawings
- Industrial Optimization: Experience with 5S methodology, Lean waste reduction, and creating Standard Work principles
- Electrical Systems: Skilled in implementing schematic diagrams; experienced in circuit assembly, and designing custom circuit layouts
- Hardware: Well-versed in PCB design and soldering
- Programming: Fluent in Java, C++, Python, and MATLAB
- Web Design: Proficient in HTML and CSS
- Office & Data Tools: Practical knowledge of all Microsoft Office and Google Workspace apps

Ontario Tech University Rowing Team 2023, Markham Aquatic Club Swim Team 2016-2019

PROJECTS

Mechatronics Design

Automatic Dog Feeder

- Designed and prototyped an Arduino-controlled dog feeder with 3D-printed housing and gear-driven auger mechanism
- Developed SolidWorks motion studies to validate gear reduction (2:1) and optimize food flow
- Engineered torque-efficient stepper motor system with DS3231 RTC for scheduled feeding

Game Development

Unity 3D

- Designed and programmed a modular character controller with smooth physics-based movement
- Integrated a level progression system and audio management with adjustable SFX/music sliders

Mechatronics Design

Smart LED Panel Project

- Designed and prototyped modular hexagon LED panels featuring WS2811 addressable LEDs with custom 3D-printed housings
- Developed complete IoT lighting system using ESP32 with WLED firmware for wireless mobile control
- Engineered robust power management with LM2596 buck converter

Electrical Design

PCB Board LED Dice

- Designed and optimized the PCB layout for manufacturability and performance
- Assembled and tested final product through precise component soldering and quality inspection

EDUCATION

Ontario Tech University, Oshawa, Ontario

September 2023- Present

GPA: 3.75

- Working towards a degree in Bachelor of Engineering in Mechatronics Engineering (Co-op) Graduating: 2028
- Ontario Tech University President's Scholarship (3-time recipient)

EXPERIENCE

Engineering Intern - Cam Tran, Colborne, Ontario

September 2025 - April 2026

Conducted site visits across multiple provinces to model and document complete facility layouts. Designed custom components to meet unique project requirements. Developed comprehensive Standard Work Instructions for all processes involved in the production of three-phase transformers. Implemented systems and tools to optimize manufacturing efficiency and enhance data analysis. Contributed to initiatives that tripled factory production capacity while also supporting ongoing process improvements and strategic expansion.

Technician - Compudent Systems Inc, Maple, Ontario

May 2024 - September 2024

Performed onsite X-ray emitting device installations, network and hardware installations, data cabling installations, and computer assembly/load/configuration. Contract work: Authored a C++ program to convert tens of thousands of medical/dental image and patient records from the Apteryx XrayVision software to the Carestream Dental Imaging software, sorting files into various patient records and folders and managing critical date information.