DANIEL WILSON

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

SUMMARY

Mechatronics engineering student with strong hands-on experience in embedded systems, 3D modeling, and product prototyping. Proven ability to take projects from concept to working prototype using SolidWorks, Arduino, and PCB design.

SKILLS

- CAD & Design: Advanced SolidWorks and AutoCAD user; experienced with GD&T and orthographic drawings
- 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

Technician - Compudent Systems Inc, Maple, Ontario

May 2024 - September 2024

Performing 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.