

# Declan Smith

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## Professional Summary

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Fourth-year Mechanical Engineering student specializing in mechatronics, with experience in mechanical design, CAD modeling and embedded systems for mechanical control. These skills were applied in project-based work involving motors, sensors and control algorithms, with responsibility for end-to-end system development from concept through designing, integrating and testing. Seeking an entry-level role in mechanical systems design and implementation.

## Education

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### University of New Brunswick

B.Sc. in Mechanical Engineering, option in Mechatronics and minor in Electrical Engineering  
Relevant Coursework: Siemens NX, Fusion360, MPLAB X, MATLAB, VHDL

Fredericton, NB  
Graduating May 2027

## Experience

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### University of New Brunswick

#### Robotics Content Development

Fredericton, NB  
April 2025 – August 2025

Developed mechatronics systems from concept to final product. Built a standalone, portable demonstration integrating motors, sensors and mechanical design, and a modular robotics platform featuring reconfigurable mechanical components enabling flexible placement of actuators and sensors. Managed the bill of materials, project budget and produced technical documentation and user instructions to support system assembly, operation and reuse.

#### Maritime Helicopters

#### Helicopter Mechanic assistant

Lincoln, NB  
April 2024 – August 2024

Assisted with mechanical maintenance on Robinson R66, R44, R22, and Schweizer 300C helicopters, and Cessna 150 and 172 airplanes. Performed hands-on inspections, troubleshooting, and repairs of engines, rotors, linkages, and airframe components, including rotor blade rebuilds, engine balancing, and service bulletin upgrades under supervision.

#### JDI Woodlands

#### Tree Planter

Fredericton, NB  
April 2023 – August 2023

Planted 82,478 sapling trees over a summer season, assisted with the transport and placement of trees as needed to support the team planting effort. Maintained high productivity and endurance under challenging weather conditions to meet a seasonal target.

## Projects

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### Mechatronics Transporter

Designed and built a transporter for object collection in a competitive scenario, with responsibility for the mechanical, electrical and control system design. Implemented a Mecanum drive control scheme and closed loop PID control of multiple DC motors using a single QEI module, achieving 5-10x higher performance than competing designs.

### Wall Following Robot

Designed and built an autonomous driving system under tight time constraints, managing a project budget and producing technical documentation concurrently. Implemented ultrasonic sensors for forward collision detection and side-wall proximity control, using real-time feedback to autonomously complete a circuit.

## Skills

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**CAD and Mechanical Design:** SolidWorks, Simens NX, Autodesk Fusion360

**Programming:** Java, MATLAB, VHDL, C, C++, Python

**Microsoft Office Suite:** Completed the Focus on Information Technology (FIT) program demonstrating proficiency in Microsoft Word, PowerPoint and Excel.

## Achievements

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1<sup>st</sup> place 2025 Mechatronics Transporter design competition

2<sup>nd</sup> place at the 2025 Atlantic engineering competition (AEC) (Senior Design)

3<sup>rd</sup> place at the 2025 Canadian engineering competition (CEC) (Senior Design)