Victor Habiyambere

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EDUCATION

University Of New Brunswick, Saint-John, NB — Class of 2027

- Bachelor of Science in Mechanical Engineering, mechatronics option
- Coursework Includes: Thermodynamics, Computer Aided Design (CAD), Calculus, Statistics, Dynamics

EXPERIENCE

Service New Brunswick (SNB), *Program Delivery Officer,* Saint-John, NB — June 2025 – August 2025

- Developed an advanced and fully scalable Excel-based Supervisory Dashboard Tool using VBA and Office Script, automating the aggregation and visualization of key team performance metrics.
- Enabled supervisors to efficiently audit individual staff activity (e.g., processed applications, follow-ups, and completions), improving transparency and decision-making within the Program Delivery Division

PROJECTS

Supervisory Tool (Program Delivery Officer) | *VBA, Office Script* — June 2025 – August 2025

- Built a dynamic and scalable Excel tool using Visual Basic for Applications (VBA) to analyze and report on the performance of program delivery officers.
- Aggregates key operational data (e.g., new applications, follow-ups, completed apps) and provides automated visual summaries for both individuals and the team. Streamlined the auditing process for supervisors, reducing manual workload and increasing accuracy in performance tracking

Electric pump-fed Rocket Engine CAD Project (ME1312) | *SolidWorks, AxSTREAM, MATLAB* — September 2025 – Present

- Designing and testing a dual-impeller electric turbopump system for a rocket engine, integrating concepts in fluid mechanics, rotor dynamics, and turbomachinery design
- Conduct hand calculations, CFD, and simulated performance testing to optimize design parameters such as mass flow rate, turbine power and pump discharge pressure

Single-Stage Rocket (Zaphod) | *SolidWorks, MATLAB, Python, OpenRocket, FEA, GD&T* — September 2025 – Present

- Developing UNB's first solid-fuel single-stage rocket using white Thunder propellant designed to reach an apogee of 10k feet at the Launch Canada Competition 2026
- Researched and developed a parts and supplies list and procedures to develop and manufacture the single-stage Rocket
- Applying the modern engineering methodology to systematically troubleshoot and analyze problems occurring during the entirety of the team's design and iteration process

Electric pump-fed Rocket Engine (Solaris) | *SolidWorks, Ansys, Python, FEA, AxSTREAM, GD&T* — September 2025 – Present

- Extension of the electric turbopump project that I am developing for my ME1312 course,
- Researched and developed a list of required materials and procedures to develop and manufacture the electric pump-fed Rocket Engine
- Use SolidWorks to CAD the impeller blades, bearings, and full rocket engine assembly and conduct relevant FEA

Autonomous Quadcopter (Vortex)| *SolidWorks, ESP32, Ansys, AxSTREAM, GD&T* — September 2025 – Present

- Developing UNB's first autonomous quadcopter at the AEAC national UAS Competition 2026
- Authored and implementing an Engineering Project Proposal (Phase 1), describing the team's payload design, mission strategy and project timeline
- Used SolidWorks and Ansys to develop an initial prototype design of the quadcopter's airframe, optimizing the design based on the UAS competition's constraints and requirements

LEADERSHIP

UNB Aerospace Society, *Co-President, Founder,* Saint-John, NB — June 2025 – August 2025

- Established the UNB Aerospace Society, a student-led organization focused on advanced rocket systems, unmanned aerial systems and hands-on engineering
- Ratified under both the UNB Student Union (Fredericton) and the UNB Student Representative Council (Saint-John)
- Secured $3200.00+ in funding for the Society's initiatives and projects via external sponsorships

Peer Notes Volunteer *Student Accessibility Center (SAC),* Saint-John, NB — September 2023 – April 2024

- Created and uploaded notes for APSC1011(Statics), ENGG1003(Technical Comms.) and MATH1503(Linear Algebra)
- Earned a Letter of Appreciation from the Associate Vice-Provost Student Affairs and Services

Peer Notes Volunteer *Student Accessibility Center (SAC),* Saint-John, NB — Jan 2026 – Present

- Creating and uploading notes for ME2413(Thermodynamics) and MATH3414(Numerical Methods)

TECHNICAL SKILLS

Computer: SolidWorks, Ansys, Python, C++, C#, MATLAB, ESP32, Finite Element Analysis (FEA), AxSTREAM