

JIBRAIL BHAGWANDASS

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[Portfolio](#) | [LinkedIn](#)

SUMMARY

Mechanical Engineer (BASc, U of T – Biology & Mechatronics) with direct medical-device experience: serviced and calibrated 15+ ophthalmic instruments across 5+ Caribbean hospitals. Academic foundation in biomechanics, biofluid mechanics, biomaterials, and FEA. Seeking a graduate role in medical device design and development.

TECHNICAL SKILLS

SOLIDWORKS | ANSYS FEA | CATIA | AutoCAD | MATLAB | Python | Arduino C++ | Biomechanical Analysis | Biofluid Mechanics | 3D Printing | PCB Design | GD&T | Bluebeam

EXPERIENCE

Biomedical Engineer

Aug 2025 – Nov 2025

Eye See You Ophthalmic | Trinidad & Tobago

- Serviced, assembled, and calibrated 15+ ophthalmic diagnostic and surgical instruments (slit lamps, autorefractors, OCT units) across 5+ public and private hospitals.
- Achieved zero post-service failure callbacks by implementing a 12-point QA checklist covering optical alignment, motor function, and electrical integrity.
- Evaluated patient-interface ergonomics during equipment setup, applying biomechanics knowledge to chin-rest and forehead-bar positioning for accurate diagnostics.
- Authored clear, non-technical service reports for hospital administrators, accelerating equipment reactivation timelines.
- Coordinated with international OEM engineers to source replacement parts and resolve complex electromechanical failure modes.

HVAC Engineer

Sep 2023 – Sep 2024

HTS Engineering Ltd | Toronto, ON

- Designed mechanical systems for a \$20M+ portfolio including Trillium Peter Gilgan Mississauga Hospital – direct healthcare-facility engineering experience.
- Performed thermal load and airflow calculations ensuring compliance with hospital air-quality and pressurization standards.
- Delivered BIM models and project budgets on deadline for 100% of assigned projects; coordinated across architects and contractors.

PROJECTS

Global Medic's Fire Skid – Mechanical Redesign

2023

University of Toronto – Community Partner Project

- Optimized portable fire-suppression skid for pickup-truck mounting; applied materials-selection methodology to reduce weight while maintaining pressure-vessel safety.
- Validated structural integrity under dynamic transport loading via ANSYS FEA simulation.

Team Captain – FIRST Global Robotics Competition

2019

Team Trinidad and Tobago | Dubai, UAE

- Led 20+ engineers through full design-build-test; developed sensor and actuator integration directly transferable to medical device systems. Placed 69th/191 countries.

Electrical Team – Rovers for Space Exploration

2022–2024

University of Toronto Engineering Design Team

- Designed miniaturized PCB layouts (~20% footprint reduction) for space-constrained rover enclosures – applicable to implantable and portable device design.
- Optimized component placement for thermal management and signal integrity across power and sensor subsystems.

EDUCATION

BASc, Mechanical Engineering | Minor: Robotics

2025

University of Toronto – Specialization: Biology & Mechatronics | Certificate in Business

Key Courses: Biomechanics, Biofluid Mechanics, Biomaterials, Finite Element Methods, Mechatronics Systems Design, Machine Learning

CERTIFICATIONS

CSWA (Dassault Systèmes) | Google Project Management | Google Introduction to AI