RIDA SAYED

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Nanotechnology Engineering graduate building and testing multidisciplinary hardware, from medical sensing prototypes to propulsion test systems. Combines mechanical design, embedded electronics, software, and hands-on experimentation to translate requirements into working prototypes and validated workflows. Canadian citizen open to relocation.

Experience:

Embedded Systems Engineer, NewGen Health *May–Aug 2025*

- As the first engineering hire, owned a urine-sample sensing lid: fluidic channels, optical assay sensing, motion detection, ESP32 firmware, touchscreen results, and BLE connectivity.
- Calibrated sensors and used Python-assisted tests to isolate mechanical, optical, electronic, and firmware faults; evaluated fixes through SolidWorks designs and rapid 3D-printed revisions.
- Selected components and suppliers; developed PCB schematics and procurement plans with manufacturability, privacy, and regulatory design constraints in mind.

Research Assistant (two terms), Engineering IDEAS Clinic, UWaterloo *Sep–Dec 2023; Jan–Apr 2025*

- Translated stakeholder requirements into CAD and instrumented prototypes, including LiDAR-based robot odometry and educational hydroponic/aeroponic equipment.
- Developed CONOPS, SOPs, calibration and functional tests, and technical documentation to connect intended operation with repeatable verification.

Test Engineer & Safety Captain, Waterloo Rocketry (student team) *Sep 2021–Aug 2024*

- Led pressure and cold-flow testing, supported ignition/static-fire operations, and held safety go/no-go authority; developed risk assessments, procedures, and test-readiness checks.
- Built propulsion test fixtures and ground-support equipment; worked with pressure transducers, load cells, thermocouples, calibration, and COMSOL simulations.
- Contributed to DAQ software and worked with DAQ during tests to analyze live data, troubleshoot issues, and adjust test operations.

Systems Integration Engineer, Integrix Systems Solutions *Jan–Apr 2024*

- Designated on-site project manager for a multimillion-dollar media-systems program; supported requirements management and coordinated clients, technical teams, vendors, and contractors through pre-fit-out engineering.
- Prepared system diagrams and technical layouts linking AV, networking, controls, and client constraints; selected connectors and performed debug testing on AV, networking, and power cabling.

Data Analytics & CX Intern, Epoch *Jan–Apr 2023*

- Self-taught SQL and trained teammates, reducing query request-to-use turnaround by 94%; investigated application bugs and communicated client-usage findings.

Featured Project:

Canadian Nuclear Laboratories-sponsored project - Radiation Biodosimetry *Sep 2025–Aug 2026*

Developed and validated an emergency radiation-biodosimetry workflow combining microfluidic sample handling, optical sensing, and gamma-H2AX analysis, with attention to reliability, usability, and regulatory design considerations.

Technical Skills:

Design & Embedded: SolidWorks, Onshape, 3D printing, ESP32, BLE, PCB schematics, test fixtures
Test & Instrumentation: DAQ, calibration, functional tests, oscilloscopes, DMMs
Software & Analysis: Python, MATLAB, SQL, Git/GitHub, COMSOL, ANSYS
Systems Engineering: stakeholder requirements, CONOPS, SOPs, FMEA

Education:

University of Waterloo | B.A.Sc., Nanotechnology Engineering (Honours) *Awarded Jun 2026*

Member of UW Board of Governors and Senate; WUSA/WEEF boards; President, Nanotechnology Engineering Student Society.
Academic exposure: cleanroom fabrication coursework, thin films, photolithography, SEM, XRD, and spectroscopy.