# LILIAN AUDAX RUTABANZIBWA

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## EDUCATION

**Bachelor of Science, Biomedical Engineering** Expected 2027
Minor in Digital Engineering (Electrical Stream) | Schulich School of Engineering, University of Calgary
**Relevant Coursework:** Advanced Software Design & Development; Fundamentals of Applied AI; Signals, Systems & Instrumentation II; Biomedical Devices Technology; Computer Networks

## TECHNICAL & PROFESSIONAL SKILLS

**Project Coordination:** Milestone tracking, risk identification, cross-functional documentation, traceability matrices, FMEA
**Regulated Environments:** ISO 13485-adjacent practices, ISO 14971 risk management, V&V planning, design control documentation
**Tools & Platforms:** Git, Microsoft Office 365, SolidWorks, AutoCAD, Arduino; familiarity with Notion, Asana-style task tracking
**Data & Reporting:** Python, SQL, MATLAB — data querying, cleaning, visualization, dashboard reporting, longitudinal analysis
**Communication:** Technical documentation, stakeholder reporting, cross-disciplinary team coordination, IEEE-style technical writing
**Programming:** Python, SQL, MATLAB, C — analytical workflows, data pipelines, automation scripting

## EXPERIENCE

**Training Materials Development Intern** | *Exceptional Abilities* — Calgary, AB Jan 2026 – Present

- Own the end-to-end development of structured training documentation for neurodivergent children's programs — translating complex organizational requirements into clear, accessible materials with defined review and iteration cycles.
- Maintain documentation discipline across multiple active program streams; coordinate with program staff to validate accuracy and close gaps before they affect delivery.
- Apply a user-centered, iterative design approach — gathering stakeholder feedback, identifying process friction, and improving materials with each cycle.

**Research Intern** | *Alberta Children's Hospital Research Institute* — Calgary, AB May 2025 – Aug 2025

- Managed structured research databases using SQL and Python — querying, cleaning, and validating large-scale cohort datasets to support analysis integrity and reproducibility.
- Built data visualizations and comparative dashboards to communicate findings to multidisciplinary stakeholders including clinicians, researchers, and program leads.
- Authored technical report sections (literature review, methods, results) in IEEE format; supported data quality assurance workflows across a regulated research environment.

**Undergraduate Research Assistant – Burn Scar Classification** | *University of Calgary* — Calgary, ABSep 2024 – Apr 2025

- Developed and maintained repeatable Python-based analysis pipelines for medical imaging data — including preprocessing, feature extraction, and model validation — with a focus on accuracy and audit-ready documentation.
- Identified and resolved workflow gaps that affected data reproducibility; contributed to process improvement initiatives that increased consistency across analysis runs.

**Co-Founder** | *Code Safari (MIT PKG Center Partnership)* — Calgary, AB Aug 2023 – Present

- Co-founded and scaled a STEM education program serving 45 students; managed relationships across educators, students, and the MIT PKG Center — coordinating scheduling, curriculum delivery, and stakeholder communication across a distributed team.
- Designed structured Python and data curriculum with clear milestones; adapted delivery iteratively based on participant outcomes, demonstrating ability to manage complex workflows and reprioritize under changing conditions.

## RELEVANT PROJECTS

**3D-Printed Electrode Matrix Cuff – Scan-to-Print Workflow** | University of Calgary 2025 – 2026

- Led requirements engineering, system integration, and V&V planning for a personalized medical device; maintained a traceability matrix linking requirements through design, fabrication, and test plans — directly analogous to design control documentation in an ISO 13485 environment.

- Coordinated a cross-functional team across design, fabrication, testing, and reporting workstreams under a constrained timeline and $70 budget; surfaced risks early using FMEA and implemented structured mitigation strategies.
- Managed documentation discipline across all project phases — ensuring all deliverables were traceable, up-to-date, and reviewer-ready at each milestone gate.

**Wearable Dialysis Device Design (Innovation 4 Health)** | University of Calgary Jan–Apr 2025

- Coordinated an interdisciplinary team through needs assessment, design iteration, and prototype testing; translated clinician and user feedback into structured engineering requirements with defined acceptance criteria.
- Managed milestone tracking and task delegation across engineering, clinical, and presentation workstreams; presented technical deliverables to clinicians, engineers, and industry professionals.

**Mathematical Modeling & Data Analysis – Drug Release from Microspheres** | University of CalgaryJan–May 2025

- Developed ODE-based simulation models in MATLAB and conducted parameter sensitivity analysis; organized results into structured documentation supporting reproducibility and stakeholder review.

## AVAILABILITY

Available for a 12–16 month work term starting May 2026, with flexibility on start date.