






Levi Gregorash

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EMPLOYMENT AND RESEARCH EXPERIENCE

GRADUATE RESEARCHER | APPLIED AERODYNAMICS LABORATORY OF FLIGHT

2022-2024 | Toronto Metropolitan University

- Continuous development and improvement of a solar-electric plane, CREATEv, for ultra-long endurance applications.
- Tuning of the Extended Kalman Filter and Total Energy Control Systems, optimal path planning using a model predictive controller with live wind estimation.
- Cross-functional teamwork for design, system fusion, flight testing, and automated post processing of data.

GRADUATE TEACHING ASSISTANT | LAB INSTRUCTOR

2022-2024 | Toronto Metropolitan University

- Instructed tutorials, marked tests and reports for the Introduction to Space Systems Design and Flight Performance courses at Toronto Metropolitan University.
- Clear communication on lab expectations and training of equipment operation.

RESEARCH ASSISTANT | FACILITY FOR RESEARCH ON AEROSPACE MATERIALS + ENGINEERED STRUCTURES

2019-2022 | Toronto Metropolitan University

- Student-led research projects including modification of an industrial robot arm for 6-axis continuous carbon-fiber 3D printing of complex geometries and in-process inspection during 3D printing.
- Design, maintenance, and documentation of Programmable Logic Controller using a Revolution Pi.
- Automated actuator control, pneumatic tool head changes, and temperature and load cell readings with a graphical user interface utilising Python and C++.
- Data acquisition and processing for Keyence laser micrometers and line scanners.

JOURNAL PAPER | ADDITIVE MANUFACTURING, VOLUME 54, JUNE 2022, 1027333

2021-2022 | Toronto Metropolitan University

- Evaluation of Electromagnetic Shielding Properties of High-Performance Carbon-Fiber Composites Fabricated by Robotic 3D Printing.
- Performed literature and theory review, compiled and collected data, and selected testing apparatus and specimen parameters.

UNDERGRADUATE THESIS | INDEPENDENT RESEARCH

2022 | Toronto Metropolitan University

- Extended Kalman Filter tuning for the design of a navigation system for robotic free-flyers performing inspections of large space structures.

PORTFOLIO WEBSITE | HTML DESIGN AND LINUX OS

2022 | levig.xyz

- Created a portfolio to showcase projects with server hosting on a Raspberry Pi 4.

WEATHER BALLOON PROJECT | PERSONAL PROJECT

2017 | Minnedosa, Canada

- Utilised a Raspberry Pi to record barometric pressure, altitude, temperature, and HD video as a weather balloon ascended 30km through Earth's atmosphere.

SKILLSET

PROGRAMMING/SOFTWARE

Proficient:

MATLAB • Fortran • CATIA V5
Python • L^AT_EX • Slicing Apps

Experienced:

Ansys • C++ • Simulink

LEADERSHIP

- **Aerospace Department**
Former Council Associate Chair
- **Aerospace Course Union**
Three years experience in event planning and student representation
- **Communication**
Thrive in team environments, strong public speaking skills

LANGUAGES

- **English:** Native Language
- **Portuguese:**
Working Proficiency
- **Spanish:**
Elementary Proficiency

EDUCATION

TORONTO METROPOLITAN UNIVERSITY

M.ENG STUDENT

AEROSPACE ENGINEERING

2022-Present | Toronto, Canada

RYERSON UNIVERSITY

B.ENG, AEROSPACE

SPECIALISATION IN SPACE SYS.

2017-2022 | Toronto, Canada

ROTARY INTERNATIONAL EXCHANGE

YEAR LONG YOUTH EXCHANGE

2015-2016 | São Paulo, Brazil

AWARDS

- **Governor General's Academic Medal**
- **Manitoba Family Volunteer Award**