

JULIAN AWAD

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Clearances Held (Canada): NATO Secret ◇ Controlled Goods Program ◇ Enhanced Reliability

www.linkedin.com/in/julian-awad

SUMMARY

Engineering Physics Student from Queen's University with industry experience and published research (page 2). Skilled in rapid prototyping and manufacturing, modeling real-world systems, and advanced physics and mathematics. Looking to join [XYZ] and make a meaningful contribution as a [ABC].

ENGINEERING EXPERIENCE

Lockheed Martin - Hardware Engineering Intern

May 2021 - August 2021

Rotary Missions Systems - CSC Project

NATO Secret, Controlled Goods Program

- Performed detailed Solidworks FEA Analysis to validate equipment to Military Standard 901D
- Created an Excel VBA Program to generate Shock Response Spectra from an Impulse Function for Shock & Vibe Testing, which is now regularly used across the CSC Project
- Performed detailed make-vs-buy analysis on electronics enclosures, resulting in an overall 2x cost reduction and 4x time savings
- Created and presented a Whitepaper detailing the Thermal, Ingress Protection, Shock Resistance, Safety, and Maintenance considerations of mounting locations for electronics enclosures

Department of National Defense - Engineering Intern

May 2020 - September 2020

ADM(Mat) - DSVPM 4-5

- Documented and presented key specifications on Armored Patrol Vehicles for 411 vehicles in 69 variants
- Reworked procurement documents based on technical requirements from multiple military bases
- Proofread English-to-French translations of contracts to ensure accuracy and correctness

TECHNICAL SKILLS & COURSEWORK

Programming

Python, SciPy, MATLAB/Simulink, Git, L^AT_EX, C

Mechanical Design

SolidWorks + Simulation, FDM 3D Printing, Autodesk Inventor

Engineering

Technical Report Writing, Engineering Drawings

Languages

English, French (Native Bilingual), Spanish (Working Proficiency)

Relevant Coursework

Thermodynamics I&II, Fluid Mechanics I&II, Heat Transfer, Control Systems, Computational Physics, Electronics & Digital Systems, Engineering Physics Lab I&II, Engineering Design & Practice I,II&III

EDUCATION

Faculty of Engineering, Queen's University

Class of 2023

- Candidate for Bachelor of Engineering Physics, Mechanical Stream
- Dean's List with Honours - GPA of 3.75/4.3

Publications

- Julian Awad, Nikhil Menda, William Conway, and David Puddy, "Investigation of Magnetic Radiation Shields for Human Space Habitats," J. Undergrad. Eng. Phys. Phys. Exp. Queens, Section 1, Vol 3.

PROJECTS & PUBLICATIONS

Undergraduate Research Project

September 2021 - December 2021

An Investigation of Magnetic Radiation Shields for Human Space Habitats

Awad et al.

- Designed and conducted an experiment over 6 weeks to measure the viability of a superconducting magnet as an active radiation shield for lightweight space travel applications
- Manufactured a vacuum chamber with a cooling tube configuration, wire feed-through, and a beta particle detector capable of maintaining a vacuum of 0.1 Pa to minimize particle stopping power and reduce condensation on the superconductor
- Designed and created superconducting magnet configurations made of cutting-edge YBCO tape with a vacuum-tight cooling system to maintain critical temperatures of 77K
- Created a Python program to perform in-depth analysis of the raw data, including noise filtering, curve fitting, and extrapolation to demonstrate clear trends

Co-Founder, PolyTwist Designs

November 2015 - Present

www.polytwist.xyz

- Co-founded a small business designing and manufacturing original Rubik's-Cube-style puzzles with unique mechanisms and functions using FDM 3D Printing and SolidWorks
- Made over \$20,000 in sales of 16+ products at live events and through our online shop over three years
- Officially partnered with Rubik's Brand Ltd. to mass-produce a product, involving the design stages to manufacturing through injection molding and packaging design
- Responsible for the in-house production line from start to finish, product design, website development and upkeep, and sales through our online shop and in-person events.