Sloan Sobie

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KEY ACHIEVEMENTS

- Project Manager of Whistler Blackcomb Spaceshot rocket on UBC Rocket
- Presented research paper on modeling the heat flux of a regeneratively-cooled liquid bipropellant rocket engine at the Canadian Combustion Institute Conference, and Launch Canada (Canada's biggest rocketry conference)
- Lead design of L1/L2 certification rocket, and helped manufacture airframe of hybrid rocket on the University of Toronto Aerospace Team
- Programmed website that generates a supersonic rocket nozzle and renders an .stl file for 3-D printing

EDUCATION

University of British Columbia - Mechanical Engineering (Present)

- Mechanical Engineering Student planning to specialize in the aerospace stream
- Current Courses: Differential equations, Dynamics, Circuit Analysis, Solid Mechanics, and Materials
- Previous Courses: Differential & Integral Calculus with Application to Engineering, Introduction to Computation in Engineering Design, Linear Systems, and Mechanics I

Upper Canada College (2021)

- 41/45 IB Total and 94% OSSD high school average in Toronto, Canada
- Higher Level: Mathematics, Physics, Economics; Lower Level: Chemistry, Latin, English

Stanford University Summer Program - Astrochemistry *(2019)*

- Selected to attend a course on astrochemistry where I learned about how organic molecular evolution occurs in extreme astrochemical environments
- Made presentation and research paper detailing the technological influence artificial intelligence can have on the future of humanity

The Knowledge Society ***(2017)***

- Invited to a competitive 10 month incubator to foster innovation among young people
- Primary research focus was on aerospace and artificial intelligence

Completed over 350 community service hours

WORK & TECHNICAL EXPERIENCE

UBC Rocketry (2021-Present)

- Project Manager of Whistler-Blackcomb Rocket
    - Whistler Blackcomb rocket uses a regnatively cooled liquid bipropellant rocket engine, and has an expected maximum altitude of 100km – the official edge of space
- Previously designed the thrust structure and recovery interface of the rocket using topology optimization, and static buckling simulations
- Used Ansys Fluent to simulate the flow of combustion gasses within our engine
- Spoke at Canadian Combustion Institute Conference, and Launch Canada about modeling heat flux for our engine
    - Modeling heat flux is important for optimizing our engine's cooling system

University of Toronto Aerospace Team (2018-2021)

- Helped build Defiance MK-II with hybrid rocket engine and 50,000ft apogee
- Lead design of L1/L2 solid rocket certification as part of the team certification program
- Manufactured various types and sizes of composite pieces such as the body tube and nose cone, performed compression tests to maximize compressive and torsional strength

cdnozzle.com (2021)

- Spent summer teaching myself the foundations of fluid mechanics and applying what I learned to make a python program that generates the ideal shape for a supersonic rocket nozzle
- Meshed the shape and rendered it as an .stl file. Used a flask framework to integrate python script into a website

Teaching Assistant at the Synthesis School (2021-Present)

- Synthesis is a series A startup aimed at teaching students problem-solving, leadership, and creativity through education
- Teaching Assistant and member of the Tech Support Team
    - Taught hundreds of students from 6/7 continents
    - Managed online community of over 1200 students
    - Assist over 400 faculty with technical and community issues

Into the Impossible Podcast with Professor Brian Keating (2020-2022)

- Hired to help expand podcast growth through graphic design
- Helped grow subscribers by 260% from 17K to 46K and views by 300% from 900K to 2.7M

AWARDS

- George P. Grant Prize for Theory of Knowledge, 1/180 students (2021)
- CU Boulder Chancellor's Achievement Scholarship
- University of Waterloo President’s Scholarship and Peter C. Masak Memorial Scholarship
- Top 3 Finalist at the Ivey National High School Business Competition (2018)
- 1st Place Student of Distinction at the International Civil Aviation Organization Summit (2017)

SKILLS, CERTIFICATIONS, AND INTERESTS

- Manufacturing Skills: lathe, mill, CNC, composite layups, waterjet, hand tools, 3-D printing, and welding (MIG/TIG)
- Programming Languages: Python, Matlab, Javascript, HTML, CSS, Java and C
- IT Skills: Solidworks CAD, Solidworks Static and Topology Simulations, Ansys Fluent
- Hobbies: Formula One, Basketball, Tenor Saxophone, and Macroeconomics
- Certifications: Tripoli L1 High Power Rocketry Certification, Ontario G2 driver's license