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Tal Schwartz
4^{th} Year Engineering Physics
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Skills

Mechanical	*Software*	*Electrical*	*Research*
-ANSYS Fluent software	-Java	-Circuit design	-Optical systems
-Solid Edge software	-SQL	-Electrical analysis	-Experimental design
-SolidWorks software	-MATLab	-Prototyping	-Laser design
-Machine tools	-HTML/JS/PHP	-Soldering	-Vacuum applications
-Strength analysis	-Excel/PowerQuery	-Signal processing	-Equipment sourcing
-Composite manufacturing	-LaTeX	-Arduino experience	-Manufacturing techniques

Work Experience

Assistant Rocket Technician — ***Interorbital Systems***, *Summer and Fall 2017*

- Engineering intern working on orbital rocket design, manufacturing, and assembly
- Designed a heat exchanger saving 3 kg of payload mass
- Analyzed airflow across the rocket body's surface with ANSYS Fluent
- Completely redesigned company website

Teaching Assistant — ***University of British Columbia***, *Fall 2016*

- Course: Principles of Software Construction (CPEN 221). Design, implementation and logic for software in Java
- Held office hours, evaluated assignments. Cooperated with students to maximize learning. Liaison between professor and students

Co-op Student — ***Max Planck Institute***, *Spring 2016*

- Support engineer at the Max Planck Institute for the Structure and Dynamics of Matter
- Designed and built an optical system for characterization of laser pulses
- Designed mechanical lab components, including for high-vacuum applications
- Designed and built circuitry to synchronize experimental equipment
- Contributed to multiple academic publications

Intern — ***International Business Machines***, *Summer 2015*

- Database software designer in Input/Output Drawer and Adapter Development, Z Systems
- Determined and investigated failure conditions for IBM mainframe hardware
- Built a software tool to compile and visually display hardware failure data
- Presented to upper management on failure analysis and prevention

Technical Experience

Optics Lab Volunteer — ***Lab of Prof. David Jones***, *Fall 2016 - Spring 2017*

- Responsible for support circuitry implementation
- Designed and built circuits for piezo-motor control and optical cavity length correction

Robotics Competition ***UBC Engineering Physics****, Summer 2016*

- Team design and construction of an autonomous miniature taxi for a robotics competition
- Designed, built, and tested the robot, including hardware, software algorithms, circuitry
- Project lead for mechanical design, including industrial manufacturing techniques

Orbital Transfer Methods ***Class Project****, Spring 2017*

- Compared orbital transfer methods for time and ΔV efficiency
- Built a MATLab visual simulation depicting orbital transfers

UBC Mars Colony ***Design Team****, 2017*

- Member of the UBC Mars Colony team, designing technology to establish a Mars colony
- Airlock actuation lead, designed the system for automatically opening and closing the airlock

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Education

University of British Columbia *Fall 2014 - Present*
Major in Applied Science: Engineering Physics
Minor in Arts: Classical and Near Eastern Studies

Awards and Achievements

- University of British Columbia Chancellor's Scholar: for academic excellence
- Academic All-Canadian: for academic excellence in a university varsity athlete
- 2^{nd} place in the British Columbia Water and Waste Association Junior Design Competition
- Salutatorian (2^{nd} highest GPA) of the New Paltz High School Class of 2014
- Anthony C. Quinn Scholarship for academic and athletic excellence
- Xerox Award for excellence in Computer Science from the University of Rochester

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Personal Interests

Cross-country running
A former varsity distance runner, I enjoy running through Vancouver's beautiful Pacific Spirit Park.
Hiking
It is my ambition to take a months-long Himalayan trek, and at least visit the Mt. Everest base camp.
Roman history
I study Classical and Near Eastern Studies to complement my physics and engineering classes. Did you know that Julius Caesar also held the title of Pope?
Jazz trumpet
I was a competitive trumpeter throughout high school, and continue to play when I can. My favourite musician is Chuck Mangione.
Travel
I travel worldwide, and have visited over 20 countries and lived in Canada, the United States, China, and Germany.

References available on request