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Tal Schwartz
3^{rd} Year UBC Engineering Physics
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Skills

Mechanical	*Software*	*Electrical*	*Research*
-SolidWorks software	-Java	-Circuit design	-Optical systems
-Solid Edge software	-SQL	-Electrical analysis	-Experimental design
-AutoCAD software	-MATLAB	-Prototyping	-Laser experience
-Manufacturing tools	-HTML/Javascript	-Soldering	-Vacuum applications
-Strength analysis	-Excel/PowerQuery	-Signal processing	-Equipment sourcing
-Material analysis	-LaTeX	-Eagle software	

Work Experience

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

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Other Technical Experience

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

- 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

Mechanical Design Team ***UBC Sailbot**, Fall 2014-Spring 2016*

- Mechanical design and construction team on UBC Sailbot, building an ocean-capable autonomous sailboat
- Designed components of the sailboat rigging and associated winch mechanisms

Virtual Chess ***Personal Project**, Spring 2016*

- Implemented a playable Chess applet using Java, including an optional AI opponent

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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

State University of New York at New Paltz *Fall 2013 - Spring 2014*
Non-matriculated student
Took mathematics, engineering, and foreign language courses while enrolled in high school

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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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References

Dr. Gourab Chatterjee
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Dr. Wesley Robertson
Senior Postdoctoral Fellow, Max Planck Institute for the Structure and Dynamics of Matter
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Kyle Wonderly
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