

Tal Schwartz

3rd Year UBC Engineering Physics

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Skills

<i>Mechanical</i>	<i>Software</i>	<i>Electrical</i>	<i>Research</i>
-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 Selection/ purchasing
-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

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-Summer 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

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

Awards and Achievements

- University of British Columbia Chancellor's Scholar: for academic excellence
- Academic All-Canadian: for academic excellence in a university varsity athlete
- 2nd place in the British Columbia Water and Waste Association Junior Design Competition
- Salutatorian (2nd 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

References

Dr. Gourab Chatterjee

Postdoctoral Group Leader, Max Planck Institute for the Structure and Dynamics of Matter

Email: gourab.chatterjee@mpsd.mpg.de

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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