Tal Schwartz

3rd Year UBC Engineering Physics
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Mechanical Skills	Software Skills	Electrical Skills	Research Experience
-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/
-Material Analysis	-C	-Eagle software	purchasing

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
  - Including design, parts acquiring, assembly, installation
- 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
  - Required implementing user interface and database analysis. Tool still in use
- Presented to upper management on failure analysis and prevention

Other Technical Experience

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

- 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
  - Capable of automatically finding "passengers", picking up, and dropping off
- Designed, built, and tested the robot, including hardware, software algorithms, sensor circuitry
- Project lead for mechanical design and construction, also involved in other tasks
  - SolidWorks design, construction with laser cutter, waterjet cutter, lathe, other equipment

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

- Mechanical design and construction team on UBC Sailbot
  - Team designed and built an autonomous robot sailboat to cross the Atlantic Ocean
- Designed components of the sailboat rigging and associated winch mechanisms

Virtual Chess

***Personal Project**, Spring 2016*

- Implemented a playable Chess applet using Java
  - Included an optional AI opponent
  - Easy, user-friendly interface implemented

Education

University of British Columbia

Fall 2014-Present

- Degree sought: Bachelor's of Applied Science in Engineering Physics
- Graduation anticipated in May 2019
- Minor in Classical and Near-Eastern Studies
- Credits Earned: 125 (by May 2017)

State University of New York at New Paltz

Fall 2011-Spring 2014

- Degree sought: non-matriculated student
- Studied university mathematics and French while at High School
- Credits earned: 17

New Paltz High School

Fall 2010-Spring 2014

- Degree sought: High school diploma
- Placed second in my class

Awards and Achievements

- University of British Columbia Chancellor's Scholar: for undergraduate 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
- Award for Services to the New Paltz Central School District
- Anthony C. Quinn Scholarship for academic and athletic excellence
- Xerox Award for excellence in Computer Science from the University of Rochester
- National AP Scholar: for exceptional performance on Advanced Placement exams
- National Commended Scholar: for exceptional performance on the PSAT exam
- Multiple awards for excellence in mathematics, physics, chemistry, biology, and foreign language

Awards and Achievements

Dr. Gourab Chatterjee
Postdoctoral Group Leader, Max Planck Institute for the Structure and Dynamics of Matter
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Dr. Wesley Robertson
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