



**CARTER  
MINSHULL**  
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UW ID: 20472922

3B Physics and Astronomy

## SKILLS SUMMARY

Developed commercial software in c++ to perform automated projection mapping.

Conceptualized and executed research experiment to hack quantum cryptography system.

Performed detailed data analysis reporting and worked closely with high level clients to ensure satisfaction.

## TECHNICAL SKILLS

C++, Qt, Python, AHK, JavaScript, Rails, HTML, CSS, MATLAB

Optics (fiber and free-space), Electronics Design and Soldering, Machining and Mechanical, Test Automation

## EXPERIENCE

### Software Engineering Co-op

Research and Innovation Software Team,  
Christie Digital | Jan 2014-May 2015

Worked both independently and with a team of software engineers to develop new and improved modules for an advanced projection mapping automation tool

Designed, coded and tested my own additions, bringing improved machine vision intelligence to the software AutoMap.

Implemented Python and AutoHotkey scripts to maximize efficiency while debugging

### Research Student Co-op

Quantum Hacking Lab,  
IQC | Jan 2014-May 2015

Led my own research project to crack a commercial quantum cryptography system in research group (www.vadl.com/lab) led by Professor Vadim Makarov and four graduate students.

Exercised ingenuity, discipline and precision while building laser and cooperative thermal electric cooler controller involving electronics, free-space and fibre-optics.

Completed university-certified training: Lab Safety, WHIMIS, High-Power Laser Use, Cryogenics, Compressed gas, Electronic Soldering

### Data Analyst Intern

Scarsin Corporation,  
May 2013-August 2013

Exercised acute attention to detail while integrating client business models and data into I2E (Integrated Insight Environment) software

Displayed exceptional written and verbal skills when training clients in basic use of I2E and when working with client managers to make model improvements

Clients were consistently impressed by the quality of service and the effectiveness of my reporting

### Residence Life Don

Housing and Residences,  
University of Waterloo | May 2014-Present

Chosen through competitive application and interview process to build a strong and supportive residence community by leading and living with forty students while attending university full-time.

Responsible to plan activities which help first year and international students get to know each other, have fun, and learn skills important for success at university.

Worked as a Manager for several Waterloo open houses for prospective students

Effectively handled high stress on-call situations involving lifesaving first-aid and emergency services.

## ACHIEVEMENTS & PROJECTS

### Maximize Potential Leadership

Certificate Holder and Presenter,  
University of Waterloo | Sept 2013-Present

Engaged in six interactive leadership sessions to achieve certification (March 2013)

Recently returned as a Don to facilitate multiple Maximize Potential sessions.

Selected as a guest speaker at Maximize potential AMPED leadership conference for over 100 first year students.

### Duke of Edinburgh Award

#### Gold Level National Award

Set and achieved goals (over 18 months) to encourage personal development and community involvement; presented with Gold Level pin.

Achievement included 90+ hours community service, sustained weekly physical activity (karate/ aikido/ swimming), developing high level of skill in guitar (Conservatory theory) and completing a 6 day adventurous expedition by canoeing 60km into Algonquin Park, camping and carrying all supplies

### Participant, Hacker

#### Hack the North | Sept 2015

Selected out of thousands of applicants to attend and participate in Hack the North 2015

Developed prototype mobile app 'Hype Social' to allow users to better connect with events in their community

Iterated quickly while planning and project MVP while working in <48 hour time window

## EDUCATION

### Candidate for Bachelor of Science

Honours Cooperative Physics and Astronomy  
University of Waterloo | Sept 2012-April 2017

UWaterloo clubs: Muay Thai, Outers Club, Space Society, Euchre Club, Rubik's Cube Club

## INTERESTS

Hackathons, Violin, Guitar, Slack Lining, Martial Arts, French, Reading, Canoeing, Camping