

# GARY SHEN

portfolio: [garyshen.me](http://garyshen.me)

email: [garyshen09@gmail.com](mailto:garyshen09@gmail.com) | in: [linkedin.com/in/gshen7](https://www.linkedin.com/in/gshen7) | git: [github.com/gshen7](https://github.com/gshen7) | C: 226-700-3927

## Summary of Qualifications

**Experience:** Exceptional student with relevant work experience in a research environment and on self-guided projects.

**Languages:** C++, Java, JSON, C#, C, MATLAB, HTML, CSS, Javascript, Python

**Technologies:** Android, ReST, Weka (Machine Learning), Altera Quartus (FPGA), RFID, ZigBee

**Personal Skills:** Creative problem solver able to learn new concepts quickly who welcomes challenging problems with a detail oriented mindset and strong initiative.

## Education

**Western University ... 2015-2020 (Expected)**  
**BESc Candidate | 94% Average**

Pursuing Computer Engineering and Honours  
Business Administration Dual Degree  
Dean's Honor List 2016

## Publications

**A Novel WiFi-Based Indoor Localization System ..... 2017**  
Shen, G., Yin, X., Wang, X. and Shen, C.  
IEEE CSCWD 2017

**Mitigating Sensor Differences for Phone-Based Human Activity Recognition . 2016**  
Yin, X., Shen, G., Wang, X. and Shen, W.  
IEEE SMC 2016

## Awards

**NSERC USRA..... 2016**  
Awarded 1 of 5 faculty undergraduate student research awards by the National Sciences and Engineering Research Council.

**Top First Year Design Project..... 2016**  
Course project was recognized as one of the top 10 out of over 100 first year projects.

**National President's Scholarship..... 2015**  
Awarded 1 of 20 top Western University entrance scholarships in recognition of all-round excellence and achievement in extracurriculars and academics

**Loran Scholar Program Semifinalist . 2015**  
Awarded to young Canadians who demonstrate exceptional character, service and leadership.

**Team Canada ISEF Top 30..... 2015**  
Selected as 1 of the 30 best science fair projects in Canada in selection process for representing Canada at the International Science and Engineering Fair

**Canada Wide Science Fair..... 2011-2015**  
Awarded 4 Bronze Excellence awards and the Resource Challenge award

## Experience

**Western Management Club..... October 2016-December 2016**  
**Business Consultant**

Provided pro-bono consulting for Mystery Escape Rooms  
Prepared comprehensive marketing plan for expansion to new location

**Western University ..... November 2015-August 2016**  
**Research Assistant and NSERC USRA Fellow**

Explored WiFi signal strength based indoor locationing techniques.  
I created a propagation-based system, deploying a RESTful web service and an android app that was 6.67 times more time-efficient than previous indoor locationing standards.

Researched activity recognition based on applying machine learning to smartphone sensor data and specific mitigation procedures for effects of sensor difference. Wrote MATLAB scripts and implemented Weka machine learning tool for data collection, classification and analysis increasing accuracy from 76% to 92%. Findings were published at the IEEE SMC 2016 Conference.

**Terzan Tech ..... November 2012-August 2015**  
**Co-Founder and Developer**

Managed and improved science fair projects (Object Locator, Fall Detection App, Bed Monitoring System) focused on elderly care.

**Freelance ..... October 2011- August 2013**  
**Web Developer**

Designed and developed websites for a variety of local clients.

## Additional Projects

**BikeSayf for V2V ..... 2016**

Built a system to allow bikers to more effectively share the road with vehicles of the future at Hack the North 2016. Used Pebble API to detect arm signals and communicate with surrounding cars, integrating bikes into the V2V infrastructure.

**Smart Bed Monitoring System ..... 2015**

Created a machine-learning based bed monitoring system that recognizes bed-related activities, falls and sleep patterns using Flexiforce sensors and Zigbee.

Implemented decision tree model developed from a machine learning algorithm with supervised data.

**Fall Detection App ..... 2014**

Coded for an fall detection app that uses smartphone sensor data. Used Twilio API to generate alert SMS to respond to detected events. Created algorithm to identify falls with an 80% accuracy.

## Leadership Positions

Undergraduate Engineering Society Council | 2nd Year ECE Rep  
Thames Valley Science/Engineering Fair | Judge, Sponsorship Head  
Western Founders Network | Education Portfolio Director  
Heart 4 Heart Charity London Chapter | VP Finance  
Western Scholars Research Conference | Organizer, Engineering Rep  
IEEE CSCWD Conference | Registration Volunteer

## Other Employment

Delta London Armouries | Restaurant Porter .....2015-2016  
London Referees Group | Hockey Referee ..... 2012-2016  
Nor'West Soccer Club | Soccer Referee ..... 2012-2016

**view all technical projects on linkedin**