

# Harlan (Heli) Wang

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## EDUCATION

### UNIVERSITY OF WATERLOO

#### BACHELOR OF COMPUTER SCIENCE

Third-year | Fall 2014 - May 2019

Cum. Average: 88%

GPA: 3.9 / 4.0

## SKILLS

### Proficient

- Java • JavaScript • C# ASP.net • C++
- HTML5 • CSS3 • Bootstrap • jQuery
- MySQL • Express.js • AngularJS
- Node.js • Linux • Scheme • Git
- Apache Hadoop MapReduce
- SAP HANA Data Streaming

### Familiar

- C • MongoDB • Android • PHP
- Python • OCaml • R • Matlab

## PROJECTS

### Web and Mobile App Contributions

- Shirt Designer (MyEAN stack, fabric.js)
- Payflow (RESTAPI Architecture)
- UWBook (C#, ASP.net)
- Chatnoir 2D Game (Create.js)

### Software Development

- MicroVita AntiSpyware

An independently developed anti-virus engine for scanning Win PE files; Downloaded over 40,000 times

### Algorithms / Data Processing / AI

- Article Sentiment Analysis (MapReduce)
- Heuristic A\* Search for Sudoku (Graph Traversal, CSP heuristics)
- Programming Paradigms Evaluation (A Multiple-Criteria Analysis Framework)

## AWARDS

Canada Euclid Mathematics Contest 2014 (Group III)

Certificate of Distinction, Top 1%

Ranked 39<sup>th</sup> Among 13851 Competitors

UW President's Distinction & Award 2014-2015 (Scholarship CAD\$12,000)

## EXPERIENCE

### FRESH PRINTS | SOFTWARE DEVELOPER

Jan 2017 – Apr 2017 | New York, NY

- Significantly enhanced the existing ERP System by restructuring and modularizing NodeJS server-side in prototype-based object-oriented JavaScript.
- Improved application security by designing access control, authentication, and encryption policies (SSL, Session, CSRF Protection, PAM, Amazon S3 bucket configuration).
- Set up and introduced Continuous Integration, Continuous Delivery, Continuous Deployment infrastructure by building Docker images, as well as writing scripts for Bitbucket pipelines, CircleCI and Amazon EC2 Containers.

### SAP CANADA INC. | SOFTWARE APP DEVELOPER

May 2016 - Aug 2016 | Waterloo, ON

- Worked on the Emerging Technologies team at SAP Lab Waterloo.
- Focused on SAP edge computing solutions to capture, analyze and act on the ever-increasing amounts of data created by Internet of Things (IoT) devices by utilizing technologies such as event stream processing (Streaming Lite) and database on the edge (SQL Anywhere).
- Extended the back-end plug-in system of IoT devices in JAVA by creating custom adapters to handle complex event processing at edge IoT devices.
- Enriched control panels of IoT enterprise cores by NodeJS, Mosquitto (an open-source MQTT protocol broker), SQL stored procedures and SAPUI5.

### ONTARIO MINISTRY OF EDUCATION | APPLICATION PROGRAMMER

Sep 2015 – Dec 2015 | Toronto, ON

- Implemented responsive web applications using Bootstrap and AngularJS.
- Customized WordPress sites by HTML5/CSS3/TypeScript and PHP.
- Wrote SQL queries (MSSQL, Oracle PL/SQL).
- Learned and applied modern SDLC methodologies.
- Performed smoke testing using QTP for an Oracle Siebel application.

### CHANMAO INC. | WEB DEVELOPER

May 2015 – Jun 2015 | Markham, ON

- Participated in the business logic layer development of a B2C mobile app by PHP Yii framework (Object/Relational Mapping) and MySQL.
- Collaborated with designers to create clean and intuitive user interfaces.

## RESEARCH

### UW DATA SYSTEMS GROUP | RESEARCH ASSISTANT

April 2017 – Present | Waterloo, ON

- Completing a comparative study of distributed graph processing systems supervised by Professor M. Tamer Özsu.
- Evaluating Hadoop MapReduce and HaLoop over large data sets (Twitter, World Road Network, UK 200705, and ClueWeb) using both online graph querying and graph analytic workloads (PageRank algorithm, Weakly Connected Component algorithm, Single Source Shortest Path query, K-hop query).