



LUISA ROJAS GARCIA

Computer Scientist

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EDUCATION

-  **Master's (MSc. Computer Science)** September 2017 – August 2019 (expected)
University of Ontario Institute of Technology
-  **Bachelor (BSc. Computer Science)** September 2013 – April 2017
University of Ontario Institute of Technology

SKILLS

- JavaScript (NodeJS backend)
- NoSQL Databases (MongoDB)
- Python (Flask backend)
- Instrumentation (TXL)
- Graph Databases (Neo4J)
- Machine Learning (Keras, TensorFlow)
- Relational Databases (PostgreSQL, MySQL)
- HTML, CSS
- C, C++
- Java
- Docker

PROJECTS

-  **Automatic Localization of Concurrent Faults** April 2018 – Present
As part of my master's thesis research, I am developing a tool that can automatically localize concurrency bugs given a unit of source code and a set of tests. To achieve this, different sections of the given program are noised; then, the scope is narrowed down using a binary-search approach.
`Python` `Java` `TXL` `Docker`
-  **Distracted Driver Detection** December 2017
Using a Convolutional Neural Network and transfer learning, we were able to build a model that could successfully predict if the individual in an image is driving responsibly or if they are distracted.
`Python` `Keras` `TensorFlow` `Jupyter Notebooks`
-  **Threaded Paws** October 2016 – October 2017
As part of my undergraduate thesis project, I designed and developed a serious game that can assist students in learning different concurrency concepts. Threaded Paws is the first educational game targeting concurrency that we are aware of.
`Unity Game Engine` `C#`
-  **Parallel Genetic Algorithms** April 2017
A sample program implementing a genetic algorithm was altered and significantly optimized by parallelizing its crossover and parent-selection processes. Then, run times between sequential and parallelized versions were recorded and compared.
`Python` `C++` `Java`
-  **dynOBD** October 2016 – December 2016
Android mobile application that, over a Bluetooth connection with a vehicle, can provide live data, like current speed and throttle. Moreover, the user can choose to keep track of trips' information, such as origin, destination, time and maximum speed.
`Java` `Android Studio`

EXPERIENCE

- ✓ **Graduate Teaching Assistant** September 2017 – *Present*
University of Ontario Institute of Technology, Faculty of Science
Managed laboratory activities for students to complete outside of their lecture sections as part of a C++ introductory course and a Software Quality Assurance advanced course.
- ✓ **Undergraduate Teaching Assistant** January 2017 – April 2017
University of Ontario Institute of Technology, Faculty of Science
Managed laboratory activities for students to complete outside of their lecture sections as part of a C++ introductory course.
- ✓ **System Administrator** September 2014 – December 2014
University of Ontario Institute of Technology, International Office
Oversaw students' UHIP coverage, in addition to the responsibilities mentioned below.
- ✓ **Assistant System Administrator** May 2014 – August 2014
University of Ontario Institute of Technology, International Office
Design and maintenance of the International Office website. Also aided in the planning and marketing processes for various events held for international and exchange students.

EXTRACURRICULAR ACTIVITIES

- ✿ **Program Representative: Computer Science** September 2017 – *Present*
UOIT Graduate Student Council
The GSC ensures that the university is aware of the concerns of graduate students and advocates for resolutions and changes were applicable. Program Representatives are closely involved with all of the council matters, and act as a bridge between the GSC and the rest of the students.
- ✿ **Founding Chair** September 2016 – December 2016
Vice-Chair May 2018 – September 2018
UOIT ACM-W (Women's) Student Chapter
Responsible for leading the team and managing the chapter's activities in accordance with the mission of ACM and ACM-W. The chapter provided opportunities for networking and mentoring for all students on campus, especially those in STEM programs.
- ✿ **GitHub's Local Hack Day: Mentor and Judge** September 2016 – April 2017
UOIT Computer Science Society and University of Ontario Institute of Technology
Mentored by offering support to the participants in terms of ideas, development workflow, and implementation. Also partook in the judge panel by voting for best hack of the event.
- ✿ **Secretary** September 2015 – April 2016
Webmaster and Social Media Director September 2014 – April 2015
American Society of Mechanical Engineering (ASME), UOIT Student Chapter
Designed and managed the chapter's website by keeping it current in accordance to the events hosted. Organized and carried out all general and executive meetings pertaining chapter matters.

LANGUAGES

English (Advanced), **Spanish** (Mother Language), **French** (Basic)