


# Rosie Zou

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## Education

### University of Waterloo

Honours Computer Science  
Data Science Option  
Graduation: April 2019

## Technical Skills

### Programming

Python, C++, C, Java, R,  
Stata, SQL

### Libraries & Frameworks

Keras, Hadoop, Pandas,  
Numpy, WEKA, Scipy

### Tools

Sketch  
Adobe InDesign

## Language Skills

Fluent Chinese  
Advanced Japanese  
Advanced French  
Beginner Spanish

## Relevant Courses

Computational Inference  
Stat. Learning Classification  
Stat. Learning Regression  
Artificial Intelligence  
Algorithms  
Operating Systems

## Scholarships

Natural Sciences and  
Engineering Research  
Council Scholarship

## Work Experience

### Autonomous Vehicles Software Intern, NVIDIA Sept - Dec 2018

*Team: Map Perception. Focus: Sensor-based Mapping*

- Designed and implemented end-to-end speed bump and road hazard detection feature in C++ and corresponding client-facing API in C. The feature is fully-documented, tested, scaled, and optimized.
- Implemented auxiliary data pipeline in C and C++ from scratch to increase sampling rate for unprocessed sensor data
- Improved rendering quality of wait conditions in in-car testing software

### Research Assistant, University of Waterloo May 2017 - Aug 2018

*Department: Statistics*

- Implemented, documented, and fully tested a Stata interface for all Random Forest class functions in the Java WEKA library
- Project and resulting paper explored alternative approaches to statistical inference in social sciences such as politics and economics
- Provided regular software maintenance based on user requests

### Equity Trading Intern, TD Securities Apr - Dec 2016

*Team: Automated Execution Group*

- Built data visualization for TD historic trades and order routing trends
- Re-worked latency calculation script used for performance analysis
- Researched various financial databases to compile market reports
- Regularly conducted research and data analysis used for marketing

## Select Projects

### SpaceX Hyperloop Pod Challenge - Waterloo May - Aug 2017

- Worked on software system of prototype pod that competed in SpaceX's Hyperloop Pod Challenge
- Designed and implemented mathematical models for navigation system using IMU, optical, and photoelectric distance sensors
- Built support vector regression models for raw signal data noise reduction
- Implemented software sub-system for telemetry and navigation
- Co-designed state diagram for entire system
- Archive code available on personal site and github

## Papers and Publications

### **Accepted: AAAI 2019 Student Abstract** Sept 2018

CSEye: A Proposed Solution for Accurate and Accessible One-to-Many Face Verification

### **In Review: Stata Journal** Sept 2018

The Random Forest Algorithm for Statistical Learning with Applications in stata

### **Published: Canadian Stata Conference** July 2018

A new Stata command for the Random Forest Algorithm