Rosie Zou

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Technical Skills

Programming

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

Libraries & Frameworks

Keras, Pandas, Numpy,
WEKA, Scipy

Tools

Sketch
Adobe InDesign

Business Skills

Communication

Business Writing
Digital Marketing
Public Speaking

Foreign Languages

Fluent Chinese
Advanced French
Advanced Japanese
Beginner Spanish

Relevant Courses

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

Education

University of Waterloo

Honours B.CS
Data Science Option
Graduation: April 2019

Work Experience

Research Assistant, University of Waterloo — May 2017 - Pres.

- Implemented, documented, and fully tested a Stata interface for all Random Forest class functions in the WEKA library
- Project and resulting paper explored alternative approaches to statistical inference in social sciences such as politics and economics
- Performed regular software maintenance based on user requests
- Plugin distributed to all Stata users on www.schonlau.net/stata/
- Currently implementing a solution to multi-level classification using a new algorithm which uses L2-norm to minimize expected loss

Equity Trading Intern, TD Securities — Apr - Dec 2016

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

Projects

SpaceX Hyperloop Pod Challenge - Waterloop — 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

CSEye — March - Apr 2018

- Designed and implemented new CNN arch. for face verification
- Built model using keras with pre-trained ImageNet weights
- Introduced parameter prediction which improved predictive accuracy
- Final weights trained using Labeled Faces in the Wild database

Multiple Imputation for Survey Data — Apr 2018

- Designed and implemented new multiple imputation algorithm for analysis of latent variables in surveys with ordinal responses
- Implemented, documented, and fully tested a ready-to-install R package
- Project features pooled analysis of parameters using Rubin's Rule

Financial Data Analysis — Apr 2018

- Achieved 0.005 cross-validation error on log-scaled retained earnings using financial data from Quandl
- Tuned the hyper-parameters and compared performances of thin-plate splines, random forest, and gradient boosting