

Education

Carleton College

Northfield, MN

BACHELOR OF ARTS: MATHEMATICS

Aug. 2016 - Mar. 2020

- **Relevant coursework:** Data Structures, Probability, Inferential Statistics, Regression Analysis, Algorithms, Statistical Consulting, Data Science, Intro Macroeconomics, Numerical Analysis, Bayesian Statistics, Artificial Intelligence, Natural Language Processing
- **Proficient:** Python, R, HTML, Git, Numpy, Data analytics & visualization **Tools Highlight:** RStudio, Tidyverse

Experience

University of Malaya

Kuala Lumpur, Malaysia

DATA SCIENCE INTERN

Nov. 2019 - Jan. 2020

- Lead data science workshops (in Python) at the University of Malaya & Universiti Tun Hussein Onn Malaysia
- Gave talks on research data management at the University of Malaya & Universiti Tun Hussein Onn Malaysia
- Supported The University of Malaya's *Open Data* & *Open Data* initiatives

Franklin Templeton

San Mateo, CA

GLOBAL MACRO INTERN

Jun. 2019 - Aug. 2019

- Independently produced and presented a 35+ page report on the economic and political state of Vietnam
- Extensively used R (ggplot, purr, dplyr, and the entire tidyverse suite) to organize, analyze, and visualize data
- Used R's BSTS package to create forecasts using Bayesian Structured Time Series

Carleton College

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DATA SQUAD SENIOR DESIGNER, PROGRAMMING ASSISTANT, TECHNOLOGY SUPPORT ASSOCIATE

Mar. 2018 - Present

- Oversaw and directed projects being completed by less experienced Data Squad members
- Held quantitative reasoning office hours for senior economics majors seeking R and Python help
- Gathered, cleaned, visualized, and analyzed PDF text data for various projects
- Provided data visualization support for students and faculty (R & Python)
- Wrangled and organized data for student and faculty projects (R & Python)

Fundación Emplea

Santiago, Chile

INTERN

Nov. 2018 - Dec. 2018

- Aided in employment advocacy for vulnerable persons in Santiago, Chile while working as an intern during a study abroad program
- Provided assistance for employment workshops, drafted documents, and helped prepare presentations (all work done in Spanish)

Data Science & Analytics Projects

GRAPHICAL INFERENCE WITH CONVOLUTIONAL NEURAL NETWORKS

- Built and curated an image data set based on methods outlined in a paper on scagnostics for training and testing
- Implemented and tested a number of different convolutional neural network architectures using Python and Keras
- Awarded honorable mention for my paper on the results of my testing by the Undergraduate Statistics Research
- **Utilized:** Python, Keras, Tensorflow, Pandas, Numpy

THE SCENARIO APPROACH AND GUARANTEED ERROR MACHINES

- Implemented a version of the Guaranteed Error Machine algorithm from scratch in Python
- Expanded the algorithm to allow for additional functionality (bagging, random forest, boosting)
- Tested the effects of my expansions on real and synthetic data sets
- **Utilized:** Python, Numpy, Pandas, SciPy

SOYBEAN PRICE PREDICTIONS

- Detected time dependent changes in the data using Bayesian methods
- Predicted future prices using a combination of XGBoost and LSTMs
- Won 1st place in the FASTCon predictive analytics bonus challenge (undergraduate division) using the algorithm
- **Utilized:** Python, Keras, PyMC, XGBoost, Scikit-Learn, Matplotlib

BAYESIAN STATISTICS & PARAPHRASE DETECTION IN PYTHON

- Adapted labs from R to Python for Prof. Hu's Bayesian Statistics course at Vassar
- Compared an n-gram model to various base machine learning methods implemented using Scikit-Learn
- Improved upon the baseline models using the BERT API and ensembled versions of the ML methods used for the baseline
- **Utilized:** Python, Scikit-Learn, Gensim, PyMC, PyJags, SciPy, Numpy, Matplotlib

Research

- Assisting in machine learning research on 3D reconstruction with prof. Rob Thompson (March 2020 - Present)
- Received distinction for my Senior Integrative Exercise (Comps) on Optimization with Uncertainty: the Scenario Approach (2020)
- Awarded honorable mention for my paper "Graphical Inference with Convolutional Neural Networks" by the Undergraduate Statistics Research Competition (USRESP, Spring 2019)
- Collaborated on, and published a paper titled Locating a Smartphone's Accelerometer in The Physics Teacher (Cited by 10)
- Independent Study in Bayesian Statistics with Python (Vassar College, Winter/Spring 2020)
- Independent Study in Reinforcement Learning (Carleton College, Fall 2019)
- Independent Study in Statistical Learning (Carleton College, Spring 2018)

Leadership & Affiliations

- Carleton Data Science Club: President and Founder - taught data science to interested students
- Carleton Model United Nations: 4 year delegate, award winner at LAMUN (UCLA Model UN)