

Education

Northeastern University

Master of Science in Applied Mathematics, GPA: 3.792/4.0

Boston, MA

[May 2016]

Tianjin University of Finance and Economics

Bachelor of Science in Applied Mathematics, GPA: 3.8/4.0. Rank: Top 1

Tianjin, China

[June 2014]

Awards: First Class Scholarship-sophomore year.

First Class Scholarship-junior year

National Scholarship

First prize in China Undergraduate Mathematical Contest in Modeling

Research Experience

Text Classification with Word Vector Regularization, Northeastern Univ.

[Oct. 2016-present]

- On-going research project with Prof. Javed A. Aslam and Prof. Virgil Pavlu in the Machine Learning lab at Northeastern University
- Work on the new idea of using word vectors to regularize logistic regression weights for text classification. This new method directly scores each document based on word vectors, and bypasses the need to combine word vectors into a document/paragraph vector, which often causes information loss.
- Derive and implement the training method for the proposed model in Python and Java.
- Run experiments on real datasets and produce some promising results.
- Work towards a submission to SIGIR 2017.

Assist PhD students in Research Experiments, Northeastern Univ.

[Sept. 2016 – Oct. 2016]

- Involved into two recent research projects in the Machine Learning lab at Northeastern University
- Ran Least Square Gradient Boosted Trees and Neural Network baselines in a text analysis project. The produced results are included in a recent paper submitted to ECIR 2017.
- Ran Multi-class Gradient Boosted Trees baseline in an ordinal embedding project. The produced results are included in a recent paper submitted to AISTATS 2017.

Clustering MNIST with Bernoulli Mixtures, Northeastern Univ.

[Sept. 2015]

- Implemented the EM algorithm for Bernoulli Mixtures to cluster and classify MNIST data in Python.
- Found several different handwriting styles for the same digit in the dataset by inspecting the learned clusters.

Bank Direct Marketing Analysis using Data Mining Techniques, Northeastern Univ.

[Sept. 2014 - Dec. 2014]

- Collected, cleaned, and transformed a large-scale dataset (Bank Marketing Data Set) using Python from UCI Machine Learning Repository.
- Applied and visualized PCA in R on the dataset to analyze and select bank client features, phone call features, and social and economic context features.
- Conducted statistical hypothesis testing, such as Chi-squared Test of independence for qualitative variables, to check the association between each predictor and the response.
- Built up binary classification models to identify the main characteristics that affect a success (the deposit subscribed by the client), based on Machine Learning methods, such as Logistic Regression, Decision Tree and Support Vector Machines.

Complexity of Economic Process in climate Change, Tianjin Univ. of Finance and Economics

[Oct. 2013-May 2014]

- Developed a power penalty method to solve the free boundary problem and approximated the linear complementarity problem by nonlinear parabolic PDEs in two spatial dimensions.

China's Market Distortion and True Gains from Trade, Tianjin Univ. of Finance and Economics

[Mar. 2013 – Jun. 2013]

- Collected almost 100 kinds of fruits and vegetables data in time series, from both open and closed source database, such as China yearbook of agricultural price survey.
- Run regression model in different dimensions to analyze panel data.

China Undergraduate Mathematical Contest in Modeling

[Sept. 07, 2012-Sept. 09, 2012]

- Collaborated with a team of three to establish regression models and complete statistical analysis using SPSS to evaluate the quality of wines.

Professional Experience

Quantitative Analyst Intern, Sun Life Ever Bright Life Asset Management Company, Beijing [Jan. 2014-Apr. 2014]

- Built up Mathematical Models and applied Numerical Methods, such as Finite-difference Method solving Black-Scholes PDE and Binomial Tree Method, for Option Pricing using MATLAB.
- Conducted stock data screening and analysis, such as calculating financial ratios, using Excel.
- Accomplished company profile based on company and market research, and financial report, and analyzed the fundamental information of each firm to rate the investment risk.

Data Analyst, MassMutual Financial Group, Insurance Department, Hong Kong [Aug. 2012]

- Cooperated with sales and marketing departments to conduct customers, competitive products surveys.
- Adopted statistical analyst to determine pricing.

Skills

Programming: Python, Java, MATLAB, R, SPSS.

Mathematics: Probability, Statistics, Mathematical Analysis, Mathematical Modeling, Real Analysis, Functional Analysis.

English: GRE: Verbal 150, Quantitative 170.