Xin Zhang

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EDUCATION

M.S. Computer Science – Specialization in Computational Operations Research — Aug 2017 – May 2019
College of William & Mary, Williamsburg, VA — GPA: 3.5

B.A. Sociology – Minor Mathematics — Aug 2012 – May 2016
Sweet Briar College, Sweet Briar, VA — Mathematics GPA: 3.7; Overall GPA: 3.2
Activities: Paint 'n' Patches Club (Theater Society), Chinese Club (*Treasurer* & *Secretary*)

HONORS AND AWARDS

Graduate Teaching Assistantship, *College of William & Mary*, Aug 2017 – May 2019
Dean's List, *Sweet Briar College*, Spring 2015 & Fall 2015 & Spring 2016
Founder's Scholarship, Leadership Award, Service Award, *Sweet Briar College*, Aug 2012 – May 2016

SKILLS

Operating Systems: Windows, Mac, Unix/Linux
Languages: Python(NumPy, pandas, scikit-learn), R(caret, dplyr, ggplot2, tidyr), SQL(PostgreSQL)
Tools: LaTeX, AMPL, Jupyter Notebook, RMarkdown, Git/GitHub, Arena/SIMAN, Maple, SPSS
Skills: Data Analysis, Data Mining, Data Visualization, Linear Programming(CPLEX, Gurobi), Mathematical Statistics, Machine Learning(Classification, Regression), Probability, Simulation Modeling, Time Series Analysis(ARIMA)

RELATED COURSEWORK

Linear Programming	Discrete Optimization	Probability
Network Location Theory	Network Optimization	Data Mining
Models & Applications in OR	Applied Machine Learning	Mathematical Statistics
Simulation & Modeling in OR	Optimization in Machine Learning	Statistical Analysis of Simulation

ACADEMIC PROJECTS

DrivenData Challenge: Data Mining the Water Table, *Data Mining* (group project) — Spring 2019
- Implemented classification models using random forest, KNN, and logistic regression
- Performed data cleaning/pre-processing and further analysis in R (packages used: caret)
- Collaborated with other team members through GitHub

Redistricting Police Patrol Zones, *Simulation & Modeling in Operations Research* (individual project) — Fall 2018
- Improved the workload min–max ratio between five patrol zones in local county from 1.92 to 1.26
- Simulated local police patrol system in SIMAN language
- Conducted data analysis in R (packages used: dplyr, ggmap, ggplot2, mapview, sp, rgdal, raster)
- Applied time series and geographic information system package to help analyzing the data

Confidence Region Plotting, *Statistical Analysis of Simulation Models* (group project) — Spring 2018
- Contributed to existing R package `conf` by adding code for four more univariate distributions
- Adapted an existing confidence regions plotting technique and two improvement heuristics
- `conf` package is available at `https://CRAN.R-project.org/package=conf`

Drug Demand Prediction, *Optimization in Machine Learning* (group project) — Spring 2018
- Processed drug supply/demand dataset and conducted feature selection for further analysis
- Developed prediction models using Python (packages used: NumPy, Pandas, Scikit-learn)
- Predicted weekly drug demand using time series ARIMA model, neural network, and ridge regression
- Improved prediction accuracy by minimizing cost function: symmetric mean absolute percentage error (sMAPE)

WORK EXPERIENCE

College of William & Mary, Williamsburg, VA
Graduate Teaching Assistant, Mathematics Department — Aug 2017 – May 2019
Summer Teaching Assistant & Lab Instructor, Computer Science Department — May 2018 – Jul 2018

Sweet Briar College, Sweet Briar, VA
Intern, Office of Administration — Sep 2016 – Aug 2017
Teaching Assistant, Sociology Department — Aug 2016 – Dec 2016
Summer Camp Assistant, Summer Programs — Jun 2016 – Aug 2016
Reunion Assistant, Office of Alumnae Relations and Development — Jun 2016 & Jun 2017
Event Planning Coordinator, Office of Alumnae Relations and Development — Dec 2015 – May 2016
Mathematics Subject Tutor, Mathematics Department — Aug 2015 – May 2016

National Center for Sustainable Development, Washington, D.C.
Social Media Group Virtual Intern, Education Program — Jun 2016 – Sep 2016