David Teuscher

Quantitative Modeling Analyst at Zions Bancorporation

Pleasant Grove, UT

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Education

Brigham Young University (GPA: 3.83)

Provo, UT

MS in Statistics, BS in Statistics with Emphasis in Applied Statistics and Analytics

Sep. 2016 - Aug. 2022

- Relevant Courses: Linear Models, Advanced Bayesian Methods, Statistical Computation, Analysis of Correlated Data, Generalized Linear Models, Mixed Model Methods, Multivariate Statistical Methods, Data Science in Sports

Brigham Young University

Provo, UT

BA in Russian

Sep. 2016 - Aug. 2022

- Relevant Courses (taught in Russian): Data Science, Fundamentals of Science and Engineering, 19th and 20th Century Russian Literature

Experience

Quantitative Modeling Analyst

Salt Lake City, UT

Zions Bancorporation

Sep. 2022 - Present

- Monitor and assess model performance on expected credit loss

Adjunct Professor of Statistics

Provo, UT

Brigham Young University

Aug 2022 - Present

- Teaching introductory statistics course to a class of approximately 80 students

Data Science Intern

Lehi, UT

Ancestry

Jan. 2022- Aug. 2022

- Develop and fit a hierarchical model to predict head of household and relationship to the head of household for early census records (pre 1900)
- Extract and create features from early census records to improve model performance
- Optimize feature engineering and model fitting to run at scale for an entire census (approximately 20 million records)

Research Assistant: Bayesian, Spatial Neural Networks

Provo, UT

Brigham Young University - Dr. Matthew Heaton

May 2020 - Aug. 2022

- Compare predictive ability of models using statistical methods against neural nets for non-linear relationships
- Implement an artificial neural net to predict irrigation zones based on simple to measure factors, such as field topography, elevation and past crop yields

Research Assistant: Bayesian, Spatial Neural Networks

Provo, UT

Brigham Young University - Dr. Matthew Heaton

May 2020 - August 2022

- Estimate model parameters, including neural net weights and biases via Markov chain Monte Carlo sampling

Data Science Team Leader

Provo, UT

Brigham Young University

May 2020 - Dec. 2020

- Explain data science concepts to students such as data cleaning, feature engineering, model tuning, and model validation
- Lead teams of 3-4 students in machine learning competitions through the Kaggle platform
- Explain how to approach different types of problems in data sciene and machine learning (classification, regression, multinomial classification, time series, etc.)

Research Assistant: Modeling MLB Player Offensive Performance

Provo, UT

Brigham Young University - Dr. Gilbert Fellingham

Sep. 2018 - Aug. 2020

- Investigate offensive efficiency of MLB players in order to be able evaluate the worth of a player and estimate potential salary when negotiating a contract
- Gather and clean data from the Lahman database and from Fangraphs, filtering the data for missing values or extreme values
- Fit polynomial performance curves for players using R and make predictions for player performance over time to determine the worth over time
- Implementation of various Bayesian nonparametric models to determine which model minimizes prediction error

Research Assistant: Republican Caucus Attendance and Voting

Provo, UT

Brigham Young University - Dr. Adam Dynes

May 2019 - Apr. 2020

- Creating a master dataset of Republican members of the House of Representatives in order to analyze connection between attendance rates at caucus meetings and voting with the party.
- Cleaned multiple datasets in order to format them the same so that they could be merged together
- Merging and appending of multiple datasets together

Teaching Assistant

Provo, UT

Brigham Young University

Sep. 2018 - Apr. 2022

- Assistant for R Programming, SAS Programming, Intro to Regression, Statistical Computing, Applied Bayesian Statistics, and Analysis of Correlated Data classes
- Explain common and advanced coding practices and techniques to beginner and advanced programmers
- Increase students' understanding of how R, SAS, Python, and SQL work and enable them to debug their own code
- Explain the meaning and interpretation of regression models, as well as the assumptions and applications of those models
- Writing documents explaining how to implement code for analyses using simple and multiple linear regression, as well as logistic and Poisson regression

Full-time Volunteer

Astana, Kazakhstan

The Church of Jesus Christ of Latter-Day Saints

Jun. 2014 - Jul. 2016

- Conducted weekly training meetings for 6-10 volunteers resulting in assignments being completed in a timely manner
- Accounted for money spent and submitted reports to the office
- Worked an 80 hour workweek for 2 years dedicated to church and community service

Projects

Time Series Modeling with Prophet *2020*

- Predicting the quantity of 50 items sold in 10 different stores for 3 consecutive months
- Implementation of time series models using Prophet in R

Data Visualization of NBA shot data *2020*

- Usage of various types of graphs to present NBA shot data in different forms
- Use visualizations understand Kobe Bryant's shot tendencies

Pitch Framing *2021*

- Evaluate the framing ability of MLB catchers using GAMs and generalized linear mixed models
- Quantify the impact of umpires on the probability of a pitch being called a strike

Modeling MLB Pitcher Performance *2021*

- Modeled the performance of starting pitchers using ridge regression and the Bayesian paradigm

Skills

Programming Languages

- Intermediate Proficiency: R, Python, SQL
- Novice Proficiency: Scala, HTML, CSS, SAS, Stata, C++, VBA, Tableau, Domo, Data Bricks

Other

- Advanced Mid Russian Fluency (ACTFL certified)
- Member of American Statistical Association (2016-present)
- Member of Mu Sigma Rho Presidency at BYU (2019-2021)