Elizabeth Hance

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SUMMARY AND SKILLS

- Data analysis, mathematical modeling, and advanced mathematics
- Communicating technical results and advanced mathematics to non-technical crowds through meetings, project presentations, and teaching
- Programming languages and tools: R (tidyverse, ggplot2), SQL, Python (NumPy, SciPy, Matplotlib), MS Access, MS Excel, MATLAB, SAS, Git, Tableau, LaTeX
- Active learner of data science topics through work experience, personal exploration, and meetups
  – `https://elizabethhance19.github.io/DataScience/`

EDUCATION

Master's of Mathematical Science: Computational Sciences   Aug 2017 – May 2019
The Ohio State University, Columbus OH   GPA: 4.0
- Coursework: Statistics, Linear Algebra, Numerical Analysis, Differential Equations, Calculus

Bachelor's of Science: Applied Mathematics   Aug 2014 – May 2017
Marshall University, Huntington WV   GPA: 4.0, Minor in Music

EXPERIENCE

Data Analyst   May 2019 – Present
The Ohio State University   *Research and Program Assessment*
- Analyze student data to develop descriptive and inferential models for various projects
  – Aggregated and cleaned data from degree audit *data swamp* into pristine data pool
  – Developed linear regression and regression tree models to predict excess credit and computed RMSE and R^2 for model validation
  – Tested statistical significance between groups using t-tests, ANOVA, and Tukey's method
  – Created data visualizations using ggplot2 in R
- Regularly present findings to a forum of stakeholders
- Handle ad hoc data aggregation and analysis using SQL and R

Graduate Teaching Associate   July 2017 – May 2019
The Ohio State University
- Taught two recitation classes for Calculus I (AU 2017) and Business Calculus (SP 2018/19)
- Prepared material and problems sets to present to the class, assigned and graded homework/quizzes/exams, held weekly office hours, and tutored in mathematics and statistics learning center
- Phil Huneke Distinguished Graduate Teaching Associate Award – 2019 award recipient
  – Recognizes GTA's who have demonstrated excellence in teaching and a high level of commitment to undergraduate mathematics education

RESEARCH

Movement of the Male Germ Unit   Jan 2018 – May 2019
The Ohio State University   *Graduate Research Associate - Fall 2018*
- Master's Thesis in collaboration with the Molecular Genetics Department to model the movement of the male germ unit (MGU) through a pollen tube
- Converted biological kymograph image to numerical data using center of mass calculation
- Fit MGU direction change probabilities to exponential and power law models
- Developed a linear spring model using probability models to simulate movement of the MGU