Colton Gearhart

PROFESSOR

Muncie, IN, USA
gearhart.colton.work@gmail.com
@coltongearhart

TECHNICAL SKILLS

- Designing and implementing simulation studies.
- Computation experiments and timing studies in R.
- Creating dynamic reports in R Markdown.
- Data visualization using R, including ggplot, plotly and shiny applications.
- Data handling in R, including extensive use of tidyverse packages.
- Bayesian modeling via R Stan.
- Implementing machine learning models in R (with both custom functions and carat packages) such as knn, logistic regression, classification and regularization.
- Model selection and reduction techniques.
- Data management in SAS and SQL.
- Creating documents in LaTeX.

LANGUAGES

- Native English
- Upper Intermediate Spanish

WORK EXPERIENCE

PROFESSOR

Ball State University **Aug 2022 - Present**

- Lead students through undergraduate probability and statistical theory courses and quantitative reasoning course.
- Prepare all course materials such as syllabi, guided notes, and homework assignments.
- Deliver content lectures and facilitate classroom discussions.
- Serve on the Undergraduate Programs Committee.

Columbus State & Cincinnati State Community Colleges **Jan 2022 - Aug 2022**

- Plan, prepare, and conduct introductory statistics courses.
- Lead students through a quantitative reasoning course which emphasizes numeracy, model-building, probability and statistics in a real-world context.

DATA MANAGER

STATKING Clinical Consulting **Apr 2021 - Jul 2021**

- Perform data entry, quality control checks and creation of source documents for clinical trials.

EDUCATION

Miami University **Aug 2018 - May 2020**

Master of Science in Statistics

Northern Kentucky University **Aug 2015 - May 2018**

Bachelor of Science in Mathematics & Statistics

RESEARCH EXPERIENCE

Master's Project: Sample size requirements for fitting multiple regression models

- Literature presents many different sample size rules of thumb when it comes to carrying out a multiple linear regression study. This research project used simulation to determine the validity of these rules under varying circumstances and how simulation can be used to help size a study aimed at prediction. A Monte Carlo simulation in R was performed to assess the predictive accuracy of multiple linear regression models that are trained on various sample sizes according to some previously proposed conventional rules.

Greaves Undergraduate Summer Research Fellowship

- **Gearhart, C.** (2018), Implementation of Gibbs Sampling within Bayesian Inference and its Applications in Actuarial Science, SIAM Undergraduate Research Online, Vol. 11.
- This research project investigated a Bayesian approach within an actuarial context, with focus on a particular Markov chain Monte Carlo method, Gibbs sampling. The properties of Gibbs sampling were demonstrated and then applied within R through simulation. Extensions of this project include creating an interactive shiny app in R to demonstrate the results and replicating the Gibbs sampling algorithm in SAS.