

Joe Zemmels

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EDUCATION

Iowa State University <i>PhD. Student in Statistics</i>	Ames, IA Aug. 2018 – Present
Iowa State University <i>Master of Science in Statistics</i>	Ames, IA May 2020
Winona State University <i>Bachelor of Science in Honors Mathematics & Mathematics: Secondary Education</i>	Winona, MN Dec. 2017

EXPERIENCE

Graduate Research Assistant <i>Center for Statistics and Applications in Forensic Evidence</i> Website <ul style="list-style-type: none">• Devise and implement computational methods for performing firearm evidence identification• Create and maintain open-source resources for forensic statistics researchers• Develop materials for a Statistical Thinking for Forensic Practitioners online course	Jan. 2020 – Present Ames, IA
Graduate Instructor <i>Iowa State University Department of Statistics</i> <ul style="list-style-type: none">• Taught an undergraduate Introduction to Business Statistics course• Facilitated student learning by applying best educational practices to lesson and assessment development	Aug. 2019 – Dec. 2019 Ames, IA
Data Analytics Intern <i>John Deere</i> <ul style="list-style-type: none">• Formulated and assessed time series models for forecasting machine usage• Identified data errors and anomalies across multiple data sources to improve forecast robustness• Collaborated with Data Scientists and Data Engineers to turn analyses into actionable insights	June 2019 – Aug. 2019 Moline, IL
Graduate Teaching Assistant <i>Iowa State University Department of Statistics</i> <ul style="list-style-type: none">• Led weekly review and enrichment labs for undergraduate introductory statistics courses• Performed grading duties for introductory statistics and business statistics courses	Aug. 2018 – May 2019 Ames, IA

PROJECTS

cmcR <i>R, TravisCI, Git</i> Package Website Presentation Slides <ul style="list-style-type: none">• Implement a cartridge case identification method known as the Congruent Matching Cells method• Develop an open-source R package of implementation using package development best practices• Demonstrate validity of implementation by comparing to closed-source published results	May 2019 – Present
Bayesian analysis of float glass data <i>R, RMarkdown, RStan</i> Website <ul style="list-style-type: none">• Analyzed data of the chemical composition of float glass for a final project in a Bayesian statistics course• Leveraged data tools such as the Tidyverse and Bayesian statistical packages such as RStan	April 2020
statsfoRstudents <i>R, R Shiny, Git</i> App Website <ul style="list-style-type: none">• Created a package and R Shiny app to assist undergraduates in understanding statistics concepts• Collaborated with statistics course instructors using GitHub to construct intuitive, interactive tools	April 2019

PROFESSIONAL INTERESTS

Pattern recognition, Forensic statistics, Open-source development, Reproducibility, Image processing, Data science, Data visualization, Time series modeling, Machine learning, Statistics education

TECHNICAL SKILLS

Languages: R, Python

Developer Tools: RStudio, Git, TravisCI, Apache Spark (Databricks)

Libraries: Tidyverse (ggplot2, dplyr, purrr, tidyr), R Shiny, NumPy, pandas, SciPy