

Joli Holmes

Junior Data Scientist

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[Github](#)

Experience

Texas Policy Lab | Rice University

Junior Data Scientist

Jan 2019 - Present

Houston Endowment Child Care Deserts Application

- ◆ Developed [application](#) to visualize child care supply and demand in Harris County
- ◆ Managed the data in R and created the application in R shiny
- ◆ Created backend as a relational database to minimize data errors when integrating with a front-end UI
- ◆ Designed user interface and customized application with HTML, CSS, and JS

Texas Workforce Commission Child Care Supply and Demand Application

- ◆ Developed [application](#) to visualize child care supply and demand for frontline workers during the COVID-19 pandemic
- ◆ Managed the data in R and created the application in R shiny
- ◆ Customized application with HTML and CSS to create template application with Texas Policy Lab branding

Texas Juvenile Justice Executive Dashboard

- ◆ Created ETL process in R for Texas Juvenile Justice Department (TJJD) Executive Dashboard
- ◆ Processes cleans and reshapes data from SQL database
- ◆ Used data to create dashboard in Power BI
- ◆ Dashboard is updated monthly and provides executives at TJJD with visualizations which help them answer questions such as: which facilities have the most incidents, what types of incidents are occurring, which dorms have the most incidents, what treatments have youth received, who are the youth that offend the most, etc.?

Additional responsibilities

- ◆ Administered JIRA projects and boards for the lab
- ◆ Developed and taught tutorials on project management, agile development, code version control, quality control, and documentation centralization to lab team members
- ◆ Assisted lab's health team with researching and writing COVID-19 briefs during the COVID-19 pandemic

Mathematica Policy Research

Junior Data Scientist

Sept 2017 – Jan 2019

Comprehensive Joint Replacement Program

- ◆ Identified and reduced programming errors by developing automated web-scraping quality control system in Python
- ◆ Quality control system is utilized monthly on data and HTML reports for 800 hospitals
- ◆ Collected and analyzed data from federal websites using web-scraping techniques in R (rvest, httr) and Python (Selenium and BeautifulSoup)

Transforming Clinical Practices Initiative

- ◆ Working with a team, produced multiple reports researching the effectiveness of impact estimates from an intervention
- ◆ Helped to develop a multi-stage data pipeline to process and analyze 76 million observations of beneficiary-level claims data

- ♦ Analyzed Medicare claims data using multi-level modeling techniques on Amazon Web Services (AWS)

Understanding the Risks of Tackling in Youth Football

- ♦ Developed a dashboard application in R shiny to explore the effects on an intervention on youth football players
- ♦ Cleaned and managed sensor impact data with three hundred thousand observations
- ♦ Used multi-level modeling techniques to analyze multiple health outcomes

Wesleyan University

Head Tutor and Teaching Assistant

Sept. 2015 – May 2017

Quantitative Analysis Center

- ♦ Organized and managed a tutoring staff of 12
- ♦ Supported students utilizing quantitative methods across multiple majors such as Economics, Psychology, Sociology, Biology
- ♦ Tutored students on basic data analysis procedures including data management, visualization, and statistical analysis in R, SAS, and Stata
- ♦ Assisted students with the interpretation of statistical output from linear, logistic regression, t-test, Chi-square tests
- ♦ TAed data analytics and economics courses: Data Visualization, Econometrics, Introduction to R, Introduction to SAS, Applied Data Analysis

Wesleyan University

Research Assistant

Sept. 2015 – May 2017

Department of Economics

- ♦ Researched the effect of social media coverage on corporate governance decisions made by firms
- ♦ Built data set using social media data collected from Facebook's API and other financial data using R and Python
- ♦ Used sentiment analysis and regression modeling to discover data trends

Congressional Politics and Elections Lab

- ♦ Researched congressional politics through the analysis of Twitter data with techniques such as Latent Dirichlet Allocation (LDA), network analysis, linear, and logistic regression
- ♦ Mined and managed Twitter data with a half-million observations in R and Stata

Education

Wesleyan University, 2017

Bachelor of Arts, *High Honors*

Major: Economics

Minor: Data Analysis

Course Work

Economics: Econometrics, Quantitative Methods in Economics, Corporate Finance, Microeconomics, Macroeconomics

Data science/analytics: Machine Learning, Data Visualization, Longitudinal Data Analysis, Latent Variable Analysis, VBA, R, Python, SAS, Stata

Honors and Awards

2017

Plukas Prize for Research, Wesleyan University

2017

Plukas Prize for Teaching Apprenticeship, Wesleyan University

2016

Omicron Delta Epsilon

2015, 2016

Dean's List, Wesleyan University

Information Technology

Languages

R (rvest, httr, shiny, shinydashboard, purrr, tidyverse, RSelenium, lme4, ggplot2, tm, Rmarkdown, dplyr, tidyr)

Python (pandas, BeautifulSoup, requests, Selenium, Jupyter Notebook)

Julia (DataFrames, Imm)

SAS, Stata

Tools

AWS, Markdown, CLI, Git, Atlassian Suite (Confluence, JIRA, Bitbucket), Office 365, Power BI

Papers and Publications

Zurovac, Jelena, Michael Barna, Mariel Finucane, Ning Fu, Dean Miller, Ignacio Martinez, Joseph Zickafoose, Angela Merrill, Lauren Vollmer, Svetlana Bronnikov, Joli Holmes, and John McCauley. "The Transforming Clinical Practice Initiative Impact Evaluation: Interim Findings." Report submitted to the Centers for Medicare & Medicaid Services. Washington, DC: Mathematica Policy Research, October 22, 2018.