

# Fondren Fellows Project

Any questions can be directed to [fondrenfellows@rice.edu](mailto:fondrenfellows@rice.edu)



## Name:

Sean Smith

## Project Title:

Teaching Text Analysis

## Description:

Have you ever wanted a computer to help you examine word patterns in books, articles, or tweets? That's text analysis! During this fellowship, you'll learn and teach others about text analysis, including looking for changing word usage over time or between authors and using machine learning to find genres or topics.

## Project Summary:

With the proliferation of digital text in the form of social media posts, digitized historical books, open government data, and online periodicals, among others, scholars need new tools to keep up with and make sense of all the available information. Text analysis has emerged in the past few decades as a way of using statistical tools to understand texts. For instance, text analysis can reveal how word usage changes over time between authors, what words cluster together in genres or topics, what quotations are the most common, and when sentences and phrases are reused.

While many of Rice's peer institutions offer workshops or courses to train students and faculty about text analysis, Rice does not. In the proposed project, a fellow will collaborate with Fondren's data services specialist to create and implement workshops to teach the Rice community text analysis.

During the fellowship, the fellow will:

- Design and teach an introductory text analysis workshops using a user-friendly tool like Voyant.

- Design and teach one (possibly two, depending on what the fellow decides is necessary) more advanced text analysis workshop using a programming language like R or Python.
- Create a high-quality, user-friendly, and accessible Libguide or informational webpage about text analysis, based on the workshops and tailored to the needs of Rice students and faculty.
- Learn text analysis methods, including potential pitfalls, as well as effective workshop, presentation, and project management skills.

This project is suitable for the Fondren Fellows program because it provides an experiential learning opportunity for a student who is interested in the intersection of teaching, research, and coding. Furthermore, it supports the work of Fondren's Research Data Services unit by expanding the Data@Rice workshop offerings and filling an instructional hole. It also provides the fellow with the flexibility to explore different text analysis methods and determine which should be taught and how.

The fellow as well as the larger Rice community will benefit from the fellowship, as the Libguide and workshops will be available to the entire Rice community. Additionally, text analysis relates to and has been used in a wide variety of disciplines, including literature, business, statistics, anthropology, sociology, and history.

The project is feasible because the selection criteria will include programming and interest in using text analysis for their own projects. This background will encourage the fellow to explore methodologies interesting to them and to develop teaching skills. Additionally, the project will be staged with the fellow developing an introductory course and initial guide the first semester and a programming-based course (or two) during the second semester.

### **Number of Fellows:**

1

### **Outline of Key Tasks:**

#### **Fall:**

- Read examples of scholarly projects that have used text analysis.
- Consult with the mentor on a mini research project for experimenting with text analysis methods.

- Develop and teach the introduction to text analysis workshop with a tool like Voyant.
- Create a Libguide or webpage based on the introductory workshop and what they've learned about text analysis, including tools, methods, examples, and sources for texts.

Spring:

- Reflect on the initial workshop and consider how that experience can inform other text analysis workshops.
- Experiment with more advanced text analysis methods.
- Consult with the mentor on what methods would be most helpful to teach the Rice community.
- Develop and teach one (possibly two) text analysis workshops using a programming language – likely R or Python – to conduct the analysis.
- Update the Libguide or webpage with materials from the text analysis with programming workshops and what else they've learned about text analysis since the Fall.

**What qualifications would you expect from students working on this project?**

- An interest in computational data or text analysis
- Proficiency (2 years or more) with a programming language like R or Python
- Strong written and oral communication skills
- Project and time management skills
- Desire to improve teaching skills

**What would students learn through their participation in this project?**

The fellow would:

- Learn text analysis skills and methods.
- Expand programming skills.
- Develop teaching and presentation skills.
- Learn how to evaluate a workshop and use feedback to improve future workshops.