

Victoria Ryan

Library Research Award Essay

As an elective for my minor in Data Science, I took the course “Digital Empires” with Professor Liang Cai this semester. For the final assignment, we were tasked with writing a paper that compared and contrasted two historical figures from ancient China in the context of the three main topics we covered throughout the class: social networks, geographical mobility, and criminal histories. In addition to the essay component, the assignment required collecting data and generating three visualizations for each historical figure. This project would not have been possible without the use of library resources, specifically the Center for Digital Scholarship Staff and OneSearch.

The final essay was built from two previous essays, the first of which was an analysis of the social network of a prominent official during the early Chinese empires. I focused on Zhufu Yan, a scholar who traveled to the capital to serve the emperor during the Han Dynasty. Using Zhufu Yan’s biography, the assignment was to create a visualization of his social network using Gephi. Adam Heet attended our class as a guest speaker to teach us how to use the Gephi software. He provided a detailed lesson on how to record the data in a spreadsheet, open the data in Gephi, and customize the resulting social network diagram.

The second essay explored the geographical mobility of a historical figure. This time, I looked at Shu-li Tzu, a military official who served under three different Qin kings during the Warring States Period. The assignment for this essay was to create an ArcGIS Story Map to visualize his travels throughout his career. Dr. Matthew Sisk visited our class to demonstrate how to create a Story Map. After giving us some background information on geographic information systems (GIS), he took us through the whole process of creating a Story Map, from

compiling the point data, to creating a map layer in ArcGIS Online, to finally opening that map in the Story Map builder.

The final essay combined the content from the first two and added a new component: criminal history. In addition to creating social network diagrams and Story Maps for both historical figures, this assignment included developing timeline visualizations using Timeline.JS. Julie Vecchio attended our class to talk about this software. She explained how to make a timeline file, publish it to the web, and customize the timeline. She also provided a number of helpful tips regarding how to organize our workspace, appropriate file naming conventions, and searching for licensable images.

Through the guidance of these three staff members, not only was I able to follow along with their tutorials during their visits to class, but I was able to work through the visualizations on my own using the notes that I took during their presentations and the helpful resources they provided. Prior to these guest speakers, I had no experience with Gephi, ArcGIS, or Timeline.JS. However, I now feel confident in my ability to use these tools to create and customize my own visualizations.

One additional library resource that I used was the OneSearch tool. The essays were primarily focused on the readings we covered in class, but one of the requirements was to include an additional article that we found on our own. To find my article, I used OneSearch with the keywords “Qin government,” which allowed me to find the book *Government of the Qin and Han Empires : 221 Bce- 220 Ce* by Michael Loewe. I then accessed the book online and used the table of contents to locate an excerpt about political rivals, which supported my argument about the role of enemies in an official’s career.

Overall, the work that I completed for “Digital Empires” was made possible with library resources. Adam Heet, Dr. Matthew Sisk, and Julie Vecchio provided excellent tutorials and resources on how to use Gephi, ArcGIS, and Timeline.JS, respectively. Not only did their guidance allow me to complete my assignments in this course, but I feel as though I’ve developed new skills that I’ll be able to implement in other applications.

As I mentioned, I took “Digital Empires” as an elective for my Data Science minor, and my favorite thing about the minor is that it is an integration of information. It combines completely different subjects, from humanities to computing, to create projects that begin with raw, unorganized data and end with drawing new meanings, discovering patterns, and generating visualizations. This final assignment was the perfect example of that. We combined the history of ancient China with today’s digital technologies to create a meaningful and exciting final product. We started out by reading primary sources and learning the biography of each historical figure. We then collected data on their social networks, geographical mobility, and criminal history. We used this data to create three different visualizations for each figure: a social network diagram, a Story Map, and a timeline. Finally, we wrote an essay that tied all of this information together and communicated our observations in a meaningful way. I’m so grateful to the Center for Digital Scholarship Staff for giving me the tools to complete such a rewarding project and teaching me new skills that will be useful beyond this class.