

# David Kwong

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Portfolio: [dkkwong.github.io](https://dkkwong.github.io)

## Education

**University of Wisconsin-Madison, Madison WI**

**September 2021-December 2022**

*MS Accelerated Master's in Cartography and GIS*

Topics of study: GIS, Cartography, Data Science, Web Mapping, ArcGIS Online

**University of British Columbia, Vancouver BC**

**September 2017- April 2021**

*BA Geography-Environment and Sustainability, Minor in GIS*

Key Skills: Academic research, Statistics, ArcGIS 10.8

Topics of Study: GIS, Cities and Urbanization, Biogeography, Statistics

**Madison East High School, Madison WI**

**September 2013- June 2017**

## Projects

**Congestion Pricing in New York City**

**Fall 2022**

- Capstone project covering the entire process of a GIS project from proposal to development to presentation.
- Used Python to analyze how traffic counts in Manhattan changed every hour.
- Built a website using HTML and CSS detailing results of the project, including an interactive map of traffic.
- Recorded a final presentation of the website and its functions for peer review

**Election 2022 in Wisconsin**

**November 2022**

- Used ArcGIS Online to create maps analyzing the results of the Senate and Governor's elections in Wisconsin. Resulting maps and analysis presented as an ArcGIS Story map.
- Analyzed election results data with excel

**Interactive Web-map of Sculptures in Madison**

**April 2022**

- Manually collected information on public sculptures in Madison including location, artist, and history of the art. Created a geospatial dataset from this information
- Created a interactive website and map where users can see the sculptures locations and search the data.
- Built a website using HTML and CSS. Interactive functions created using JavaScript and Leaflet

**Geographically Weighted Regression of Academic Achievement in Madison**

**November 2021**

- Used GWR package in R to relate demographics such as income and ethnicity to nearby school achievement scores
- Processed and analyzed public data from the City of Madison into R Studio

### **Good for Business? Mapping the Proposed Bus Rapid Transit Route in Madison**

**November 2021**

- Designed a persuasive map which attempts to convince the viewer that a proposed bus route connects businesses across Madison
- Processed and analyzed public data provided by the City of Madison in ArcGIS Pro

### **Land Cover Change in Chicago**

**April 2021**

- Analyzed differences in land cover in Chicago, IL between 1992 and 2016 and produced maps highlighting areas of urban land gained, farmland gained, and farmland lost by combining rasters using ArcGIS Pro
- Simplified unaligned data sets from 1992 and 2016 into the same classification system to allow for effective analysis
- Used Python code to calculate a transition matrix quantifying change in land cover classes
- Based the methods and interpretation of results in existing academic literature

### **The Effects of Land Cover on *Alliaria Petiolata*(garlic mustard)**

**April 2021**

- Produced a scientific report analyzing whether the growth rate an invasive species, garlic mustard, changes in response to the surrounding land cover
- Used ArcGIS Pro to calculate land cover proportions near each site
- Used R Studio to run statistical tests and calculations

### **Comparing the Spatial Distribution of Glacial Deposits and Farmland in Wisconsin**

**April 2020**

- Used ArcMap to run a hot spot analysis for areas of farmland in Wisconsin
- Compared the clusters of farmland to the underlying soil characteristics, surficial deposits, bedrock characteristics, and glacial history of the region

## **Additional Skills**

- ArcGIS Pro, ArcGIS Story Maps, Mapbox
- Microsoft Office: Word, Excel, and PowerPoint
- Adobe Illustrator
- Coding: Intermediate experience coding with Python, R, and JavaScript,
- Website design using HTML, CSS, and JavaScript