David Kwong

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Education

University of Wisconsin-Madison, Madison WI   **September 2021-Present**

MS Accelerated Master's in Cartography and GIS

3.6 GPA

Expected Graduation: Fall 2022

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

University of British Columbia, Vancouver BC   **September 2017- April 2021**

BA Geography-Environment and Sustainability, Minor in GIS

80% average, 3.7 GPA

Graduation year: 2021

Key Skills: Academic research, Statistics, ArcGIS 10.8

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

Madison East High School, Madison WI   **September 2013- June 2017**

Projects

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

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 from the City of Madison

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*   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
- Met with a team each week to review current progress on the report, agree on goals for the next meeting, and address any issues that arose individually

How Risk Assessment Shapes Flood Insurance on the Mississippi River   November 2020

- Evaluated how current national flood policy under FEMA and the National Flood Insurance Program accounts for current assessments of risk of flooding
- Recommended making flood insurance policy less lenient to increase individual awareness of flood hazard and make developing in flood zones less desirable, thereby reducing the overall flood risk

Transportation in Toronto   April 2020

- Analyzed the spatial relationship of business districts and subway lines in Toronto using an OLS regression in ArcMap
- Used spatial statistics to group business districts in Toronto based on their proximity to subway lines
- Collaborated with a peer to do the analysis and write the final report

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

Global Patterns of Arable Land   March 2019

- Reviewed current threats to arable land globally based on a DPSIR framework
- Predicted changing spatial distribution of arable land due to climate change and an increased reliance on government policy to address food security globally

Additional Skills

- ArcGIS Pro, ArcMap
- Microsoft Office: Word, Excel, and PowerPoint, Skype
- Adobe Illustrator
- Coding: Intermediate experience coding with Python and R, introductory experience with JavaScript, HTML, and CSS