**DENIN Environmental Scholars Internships**

Dates of internship: Jun 8, 2020 – Aug 14, 2020

Number of positions available: 1

Faculty Mentor: Jing Gao

**Project Title:** Interactive Mapping of Geospatial Data

**Research Description:**

Interactive mapping is a useful tool for geospatial data analysis and decision support. This project will design and implement an interactive map for visualizing and analyzing a set of geospatial data related to urbanization. The intern will work with the mentor to explore pertinent geospatial datasets, design appropriate cartographic symbols, and implement an online interactive map.

**Research Questions:**

1. What online interactive mapping functions (and on what platforms) are appropriate for visualizing and analyzing selected data?
2. How to implement an online interactive map with these functions?

**Student Learning Objectives:**

This internship focuses on the development of the following professional and research skills.

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| Broad Professional Skills | Specific Skills |
| Planning and time management | Ability to set and complete specific goals of varying scope |
| Work independently | Independent work ethic - work independently to problem-solve |
| Collaborative skills | Learning to complete tasks efficiently and effectively with others |
| Express ideas in writing and verbally | Communicate with diverse audiences - Development of impactful poster and oral presentations. Honing ability to deliver research results to people of interdisciplinary background |
| Broad Scientific Research Skills | **Specific Skills** |
| Understand scientific terms | Theoretical and applied concepts regarding urbanization, spatial analysis and modeling, and interactive mapping |
| Literature analysis | Ability to effectively find and utilize relevant online technical tutorials and/or scientific manuscripts |
| Use online mapping tools | Design and implement a visually-pleasing online interactive map using existing cloud mapping platforms and software packages, with functions to help map users explore the underlying data |
| Quality control | Design and implement simple procedures to debug own analytical and visualization codes |
| Visual communication of scientific concepts and theories | Design map symbolizations and interactive functionalities that effectively communicate scientific results through appealing graphics to be used alone, in oral presentations, or writing |

**Prerequisites:**

Proficiency with cartographic design concepts (geog 472/686) and online programming.

**Work Environment and Expectations:**

Work from home and connect virtually with mentor. Intern will work full time during the 10-week project period. Hours are flexibly determined between intern and mentor. Intern will also participate in and present at project team meetings and DENIN symposiums.

**Stipend:**

$4,000 (direct deposit is required)

**Funding Source:**

National Science Foundation, Delaware EPSCoR Track I

**How to apply:** <https://ugresearch.udel.edu/PUB_Program.aspx>