Hourly Research Assistant with Prof. Xiaofan Liang

Dear Students,

Prof. Xiaofan Liang is hiring three hourly student research assistants to work with her during the Winter 2024 semester. Please see the job descriptions below.

Position 1: Research Assistant on Open Geospatial Data in Michigan

Open data is important for research reproducibility and policy-making. This research assistant will work with Prof. Xiaofan Liang to develop a guide for open data in Michigan state for geospatial and urban analyses.

Responsibilities

- Independently research various sources of open data in (or with coverage in) Michigan, such as those released by the governments, research groups, companies, and communities.

- Reach out and talk to data experts on campus and in the field to find data resources.

- Compile and organize open data attributes into a database using a standardized methodology.

- Write an open data guide for researchers, students, and planners to get an overview of what is available in Michigan.

Preferred Qualification

- Knowledge of various urban data types, such as shapefile, raster, cvs, geojson, etc.

- Knowledge of various urban data sources relevant to geospatial and urban analyses, such as origin-destination flow data, land use data, points of interest, GTFS, etc.

- A strong attention to detail and great organization skills

- Knowledge of the urban and planning context of Ann Arbor, Detroit, and the state of Michigan is a plus

- Interested in pursuing urban analytics as a career path is a plus

Expectation and Payment

- $15-20 per hour, 8 hours per week, 10 weeks in total from January to April.

How to Apply and Hiring Process

- This position is open to all undergraduate and graduate students at UMich, but there is a slight preference for students enrolled in Taubman College.

- To apply, fill this Google form and attach your resume in the form by January 12th, Friday. You can apply to all three positions, but you will only be admitted to one at most.

- Prof. Xiaofan Liang will review the applications and reach out to applicants with interview requests (or offers) by January 19th, Friday.

- Contact Prof. Xiaofan Liang if you have any questions at xfliang@umich.edu

Position 2: Research Assistant on Network Duality Case Studies

Network duality is a new research theme about how urban networks and network infrastructure (such as transportation and social infrastructure) can simultaneously be inclusive and exclusive, offering connectivity and access for certain populations, places, or types of flows, while marginalizing or restricting others.

A key area of this study is to examine the harmful effects of network infrastructure that facilitates zippy movements (such as a fast train, a highway, or an airport), such as social segregation, barriers for local mobility and accessibility, and displacement of slower, community-centric flows and connections.

You can read more about this research theme in this dissertation (skim Summary and Conclusion). These are two examples of case studies or projects (#1: the Stitch; #2: Urban Changes of Urban Renewal Programs) that reflect the concept well. This research assistant will work with Prof. Xiaofan Liang to collect case studies (and maybe research papers) demonstrating network duality.

Responsibilities

- Independently search for case studies that illustrate the concept of network duality

- Attend weekly meetings to discuss the findings and adjust search directions based on feedback

Preferred Qualification

- First and foremost, you should be interested in pursuing this research theme as you will be spending lots of time exploring this idea and articulating which case studies, projects, or papers capture the essence of the concept

- Ability to articulate why a case study / project fits into the network duality research theme

- A strong attention to detail and great organization skills

- Familiarity with past and ongoing planning projects or knowledge of where to find them

Expectation and Payment

- $15-20 per hour, 8 hours per week, 10 weeks in total from January to April.

How to Apply and Hiring Process

- This position is open to all undergraduate and graduate students at UMich, but there is a slight preference for students enrolled in Taubman College.

- To apply, fill this Google form and attach your resume in the form by January 12th, Friday. You can apply to all three positions, but you will only be admitted to one at most.

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Position 3: Research Assistant on Web Map Development

This research assistant will develop a web map using OpenStreetMap data to show the distribution of social infrastructure points of interest around subway stations worldwide. The goal is to further explore and disseminate insights from this project: Where Does Social Infrastructure Exist Near Subway Stations? A Global Assessment Using

OpenStreetMap Data. You will have opportunities to interact with external collaborators from Georgia Tech and the National University of Singapore. There is also an opportunity to co-author the paper (depending on contribution) and extend the position in the summer or fall semester. This project will also be a great portfolio to showcase for industry and academia careers.

Responsibilities

- Independently design and develop a dynamic web map application

- Discuss and facilitate insight exploration using the web map application

Preferred Qualification

- Proficiency with one programming language is a must.

- Proficiency with Javascript, HTML, CSS is a plus.

- Experience with software development workflow (front end, back end, GitHub, etc.) is a plus.

- Experience with Leaflet JS, Mapbox JS, or other interactive web map development language is a plus.

- Experience with OpenStreetMap data is a plus.

Expectation and Payment

- $20 per hour, 8-16 hours per week, 10 weeks in total from January to April.

How to Apply and Hiring Process

- This position is open to all undergraduate and graduate students at UMich.

- To apply, fill this Google form and attach your resume in the form by January 12th, Friday. You can apply to all three positions, but you will only be admitted to one at most.

- Prof. Xiaofan Liang will review the applications and reach out to applicants with interview requests (or offers) by Jan 19th, Friday.

- Contact Prof. Xiaofan Liang if you have any questions at xfliang@umich.edu