

# Alyssa Sklar

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## Education

### Master of Science in Information

April 2024

*University of Michigan, Ann Arbor, Michigan*

- Concentration in Libraries, Archives, and Digital Curation

### Master of Science in Environment & Sustainability

April 2024

*University of Michigan, Ann Arbor, Michigan*

- Concentration in Geospatial Data Sciences

### Graduate Teacher Certificate

April 2024

*University of Michigan, Ann Arbor, Michigan*

### Bachelor of Art in Geography, *magna cum laude*

June 2020

*DePaul University, Chicago, Illinois*

- Concentration in Geographic Information Sciences & Geotechnology
- Minor Architecture & Urbanism

### Certificate in Geographic Information Sciences

June 2020

*DePaul University, Chicago, Illinois*

## Teaching Experience

### Graduate Student Instructor

August-December 2023

*University of Michigan, School of Information*

- Guided students through Introduction to Statistics and Data Analysis (SI 544), emphasizing descriptive statistics, inference, probability, regression, and prediction, while fostering data visualization and interpretation skills.
- Managed two discussion sections, provided office hours, collaborated on course materials with the instructional team, and assessed student performance for a comprehensive learning experience.

### Graduate Student Instructor

January 2021-April 2023

*University of Michigan, Earth and Environmental Science Department*

- Facilitated instruction in Introduction to GIS in the Earth Sciences (EARTH 408) for five consecutive semesters, covering Cartography, Geoprocessing, Field Collection, Spatial Analysis, and 3D Analysis.
- Delivered content both in-person and remotely to learn GIS tools such as ArcGIS Pro, Field Maps, Survey 123, and ArcGIS Online.
- Directed the development and updating of GIS lab assignments, facilitated data procurement, executed student performance evaluations, maintained the course website, and led engaging lecture instruction to ensure a dynamic and comprehensive learning experience.

### Teaching & Lab Assistant

September 2019-June 2020

*DePaul University, Department of Geography*

- Offered comprehensive instructional support to courses Community GIS (GEO 242), Programming in Python for GIS (GEO 345/445), and Spatial Analysis for Sustainability (GEO 344).
- Effectively addressed and resolved technical issues related to spatial analyses, providing expertise in ArcPy scripting, SQL expressions, and data visualization techniques within ArcMap, ArcGIS Online, and IDLE.

## Research Experience

### Research Assistant

March 2023-present

*University of Michigan-Flint, College of Innovation & Technology*

- Played a key role in interdisciplinary research on the e-bike boom in Detroit, Michigan. Collaborated with stakeholders, urban planners, and policymakers for a holistic understanding of active transportation intersections with sustainability and equity.

- Conducted an extensive literature review on active transportation, e-bike usage, safety factors, and sustainable urban planning. Synthesized findings to inform the research framework.
- Collaborated on designing and administering community surveys using Qualtrics to capture insights on e-bike usage and safety perceptions. Employed Python and R for data cleaning and analysis, applying statistical methods to identify trends and correlations.
- Executed 25 field experiments using heart rate sensors, GPS devices, and cameras to collect real-time data on e-bike usage patterns. Engaged with participants for a nuanced understanding of their active transportation behaviors.
- Utilized ArcGIS Pro for geospatial analyses, mapping e-bike routes, identifying high-traffic areas, and assessing safety factors. Performed statistical analyses in R to uncover insights into the relationships between active transportation patterns and demographic or environmental variables.

### **Student Consultant**

August-December 2023

*Simon's Town Heritage Museum, South Africa*

- Collaborated with team members to initiate and establish an online archive/exhibit dedicated to illuminating the history and experiences of forcibly removed families in Simon's Town, South Africa.
- Contributed to the creation of a comprehensive template and guide for documenting the stories and experiences in SI 547: Engaging with Communities.
- Identified and implemented metadata standards, ensuring adherence to best practices in information organization and retrieval.
- Executed the ingestion of materials into the online exhibit website, ensuring seamless integration of content to provide a coherent and impactful narrative.

### **Student Consultant**

January-April 2023

*City of Dearborn, Department of Public Works*

- Collaborated on the development of a civic technology tool aimed at enhancing community engagement and promoting government transparency for residents of Dearborn, Michigan in SI 538: Citizen Interaction Design.
- Conducted user needs assessments, engaging directly with community members and stakeholders, to identify key priorities and concerns to ensure alignment with departmental objectives.
- Created prototypes, including a user-friendly texting/tracking system, to streamline the reporting and stay-informed process to facilitate two-way communication between residents and the Department of Public Works.

### **Student Consultant & Greenbelt Project Intern**

January 2021-April 2022

*City of Ann Arbor, Office of Sustainability & Innovations*

- Leveraged Remote Sensing and Machine Learning methodologies to capture the spatial distribution of urban tree canopies, identified turfgrass, and delineated native forest fragments. The results informed land stewardship, planning, and policy practices.
- Designed, implemented, and analyzed fieldwork surveys at 50+ locations, employing GNSS receivers, compass bearings, and ArcGIS Field Maps. Collected detailed training data for Machine Learning/Classification of Urban Tree Canopy, focusing on tree species, genus, and diameter at breast height, with a specialized emphasis on native species.
- Utilized R spatial libraries and ArcGIS for robust data management, machine learning, classification, analyses, and data visualizations, showcasing a comprehensive skill set in geospatial technologies.
- Synthesized research findings into comprehensive reports, submitted in partial fulfillment of the requirements for the degree of Master of Science in Environment & Sustainability at the University of Michigan.

### **GIS Student Researcher**

September-November 2018

*National A. Philip Randolph Pullman Porter Museum*

- Played a vital role in a community-based service learning partnership with the National A. Philip Randolph Pullman Porter Museum and DePaul University, demonstrating a commitment to community engagement through geospatial research by mapping the descendants of the Brotherhood of the Sleeping Car Porters.
- Developed and implemented data management and quality strategies, contributing to the enhancement of data accuracy and reliability.
- Produced compelling multimedia cartographic displays to visually communicate research findings and geospatial insights.

## **Environmental Policy & Social Initiative Student Researcher**

September-November 2018

### *Alliance of the Southeast (ASE)*

- Actively engaged in a community-based service learning partnership between the Alliance of the Southeast and DePaul University. Conducted comprehensive community outreach interviews and crafted impactful infographics to advocate for education, employment, housing, and environmentally sustainable urban development.
- Collaborated with a diverse coalition of over 35 community organizations to combat the adverse effects of neighborhood gentrification. Led the design and implementation of initiatives supporting a Community Benefits Agreement, promoting inclusive urban development, and addressing critical social and environmental concerns.

## **Library Experience**

### **GIS & Map Reference Assistant**

August 2021-present

#### *University of Michigan, Stephen S. Clark Library*

- Provided comprehensive reference, research, and information services to patrons offering expertise in maps, atlases, geographic data, demographics, and government information.
- Performed original and copy cataloging in Alma using RDA standards to create MARC records.
- Orchestrated the planning, design, curation, and community engagement of map and atlas materials for seven themed open house exhibits.
- Maintained the Clark Library auxiliary website archive.
- Designed a research project and conference presentation focused on uncovering subtextual narratives in pictorial maps exploring how these maps reflect and influence political, economic, cultural, and social dynamics through symbology.

### **Circulation Assistant**

September 2017-June 2020

#### *DePaul University, John T. Richardson Library*

- Provided friendly and attentive service to addressing circulation, informational, and research needs.
- Assisted library users in locating and checking out materials, resolving account inquiries, and offering guidance on library resources.
- Utilized Voyager and Alma to perform circulation tasks, update patron records, and manage holds and reservations.
- Digitized library materials to fulfill document delivery requests, contributing to the accessibility of library resources.

### **Shelving Assistant**

September 2017-June 2020

#### *DePaul University, John T. Richardson Library*

- Implemented and sustained organizational strategies for all library materials ensuring efficient shelving.
- Directed a project focused on the systematic reorganization of microfilms and microfiche.
- Contributed to stacks shifting projects, weeding, and the development of library collections.
- Took a lead role in training and supervising new student employees, effectively delegating daily tasks for streamlined operations.

## **Additional Experience**

### **Data Curator & Project Consultant**

May 2023-present

#### *University of Michigan, School of Information*

- Acted as a domain expert for Library, Archives, and Digital Curation client-based courses and programs demonstrating a deep understanding of client needs and course objectives.
- Spearheaded client calls and led the scoping of 60+ project proposals. Managed client and faculty relationships to ensure alignment with project goals.
- Updated and implemented standards for data integrity within Salesforce, contributing to a more efficient data management system.

### **Industry Solution Intern**

May-July 2022

#### *Esri, National Mapping & Statistics*

- Curated digital content to users of the National Mapping, National Maritime & Hydrography, and Aviation industries.

- Streamlined communication efforts through email newsletters using Salesforce Marketing Cloud, contributed to website design in Adobe Experience Manager, organized events, conducted competitive industry analyses, curated data collections, and facilitated personalized connections to tailored solutions at Esri's User Conference.

## Select Projects

### **Pictorial Map Metadata Guidelines: Requirements and Recommendations for Preparing Metadata for Omeka S Site**, University of Michigan, SI 676: Networked Services for Libraries, Archives, and Museums, Fall 2023

- Formulated comprehensive guidelines for expressing item type and descriptive information related to pictorial maps. The Metadata Application Profile (MAP) served as a foundation framework for organizing and presenting metadata.
- Executed a meticulous metadata crosswalk into DublinCore, leveraging namespaces, standards, and controlled vocabularies to guarantee uniformity and interoperability. Applied Python and API to extract metadata, adhering to MAP guidelines, and facilitated seamless transformation.
- Ingested the transformed metadata to establish a curated thematic Omeka S site, providing a user-friendly platform for accessing and exploring pictorial maps. This involved utilizing GitHub to create a repository for streamlined version control.

### **Beyond Symbolology: Identifying Subtextual Themes in Pictorial Maps**, University of Michigan, Fall 2023

- Independently initiated and conducted a comprehensive analysis of pictorial maps depicting the United States from the 1920-1960s. Applied Cultural and Human Geography and Political Ecology theories to reveal subtextual narratives involving cultural caricaturization, capitalism and consumerism, American nationalism, enclosure and dispossession of land and exploitation of resources, and segregation in the depiction of labor and leisure activities.
- Explored and analyzed pictorial maps, delving into their symbolology and connections to political, economic, cultural, and social dynamics.

### **Empowering Students with GIS: Analyzing Great Lakes Environmental Justice Issues**, University of Michigan, Earth and Environmental Sciences Department, April-December 2023

- Led the creation of a curriculum tailored for the University of Michigan's Earth Camp, a high-school outreach program designed for underrepresented minority students in the Environmental Sciences.
- Developed modules emphasizing Esri ArcGIS and centered around mapping exercises exploring Great Lakes environmental issues studied by CIGLR, with a specific focus on environmental justice.
- Funding for this project was provided by the University of Michigan Cooperative Institute for Great Lakes Research (CIGLR), through the National Oceanic and Atmospheric Administration (NOAA) Cooperative Agreement NA22OAR4320150. This is CIGLR contribution \$7,982.

### **Urban Heat Vulnerability Index: Case Study of Houston, Texas**, University of Michigan, URP 521: Intermediate GIS, Winter 2023

- Designed a sophisticated workflow tool in ArcGIS, utilizing ArcPy scripting, to construct a heat vulnerability index. This index incorporated key factors such as land surface temperature, air temperature, impervious surface, and vegetation. Further, the tool allowed parametrization by demographic variables (age and/or income) to map census tracts in Houston, Texas, identifying areas with the highest heat vulnerability.
- Analyzed and interpreted results, enabling the prioritization of areas and communities requiring urgent mitigation strategies. Utilized the findings to inform urban planning and policy initiatives aimed at addressing high-heat vulnerability.

### **Environmental Violence Prevention: Case Study of Youngtown, Ohio**, University of Michigan, URP 610: Intermediate Spatial Analysis, Winter 2021

- Deployed advanced techniques, including the analysis of normalized difference vegetation and parcel characteristics, to predict levels of lawn maintenance. This investigation aimed to determine the validity of using remotely sensed data to quantify and predict "greenness" in both ArcGIS and R.
- Explored spatial predictors of violence by investigating the association between community-engaged activities, such as mowing or gardening, and reductions in violence crime density over time among residentially zoned vacant lots using regression techniques in R to derive meaningful insights.

- Assessed the effectiveness of vacant lot maintenance as a violence prevention strategy. Examined whether specific properties of parcels, including walkability, occupancy status, market value, greenness, and neighborhood characteristics, were statistically associated with the density of violent crimes.

## Exhibits & Presentations

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"Beyond Symbolology: Identifying Subtextual Narratives in Pictorial Maps", Annual Meeting of the American Association of Geographers, East Lakes Division, Maumee Bay Lodge, Oregon, OH, November 2023

"Lines on the Land: Mapping Borders and Boundaries", University of Michigan, Stephen S. Clark Library, Open House Exhibit, Ann Arbor, MI, October 2023

"cARTography: the artistry of maps", University of Michigan, Stephen S. Clark Library, Open House Exhibit, Ann Arbor, MI, July 2023

"Are We There Yet? Vintage Travel Maps and Guidebooks", University of Michigan, Stephen S. Clark Library, Open House Exhibit, Ann Arbor, MI, June 2023

"Going Medieval On You: A Cartographic Journey", University of Michigan, Stephen S. Clark Library, Open House Exhibit, Ann Arbor, MI, May 2023

"Mapping the Beauty and Fragility of Our Planet", University of Michigan, Stephen S. Clark Library, Open House Exhibit, Ann Arbor, MI, April 2023

"Illustrating the World: Pictorial Maps from the Clark Library Collection", University of Michigan, Stephen S. Clark Library, Open House Exhibit, Ann Arbor, MI, March 2023

"Characterizing the Urban Tree Canopy of Ann Arbor, Michigan", University of Michigan, School for Environment and Sustainability, Capstone Conference, Ann Arbor, MI, April 2022

"Urban Remote Sensing & Superblocks: a case study of Barcelona, Spain", Annual Meeting of the American Associations of Geographers, West Lakes Division, University of Northern Iowa, Cedar Falls, IA, October 2019

## Awards

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**Engagement, Career Training, and Outreach (ECO) Award** from the Cooperative Institute for Great Lakes Research (CIGLR) through the National Oceanic and Atmospheric Administration (NOAA) Cooperative Agreement NA220AR4320150, Ann Arbor, Michigan, 2023 - \$7,982

**Bernadine Pietraszek Memorial Endowed Award** from DePaul University, College of Liberal Arts and Social Sciences, Chicago, Illinois, 2019 - \$3,890

**Judith Regnier Getch Endowed Award** from DePaul University, College of Liberal Arts and Social Sciences, Geography Department, Chicago, Illinois, 2019 - \$1,261

**Dean's Excellence Award** from DePaul University College of Liberal Arts and Social Sciences, Chicago, Illinois, 2018

## Affiliations

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American Association of Geographers (AAG)  
 American Library Associations (ALA)  
 American Society for Photogrammetry and Remote Sensing (ASPRS)  
 Cartography and Geographic Society (CaGIS)  
 Gamma Theta Upsilon, the International Geographical Honor Society  
 Map and Geospatial Information Round Table (MAGIRT)  
 North American Cartographic Information Society (NACIS)  
 Western Association of Map Libraries (WAML)

## **Activities**

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Graduate School Application Mentor, University of Michigan, School for Environment and Sustainability, Fall 2023  
Officer, American Library Association Student Chapter, University of Michigan, School of Information, 2023  
Member, American Library Association Student Chapter, University of Michigan, School of Information, 2020-2023  
Co-founder, Map Club pilot program, University of Michigan, Stephen S. Clark Library, 2023  
Member, DePaul Geography Student Alliance, DePaul University, 2016-2020  
Volunteer Architecture Docent, Chicago Architecture Center, 2016-2019

## **Skills**

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### **GIS & Remote Sensing**

QGIS; ArcGIS; GeoDA; ArcPy; GNSS; Field Bearings

### **Programming**

Python; R; SQL; HTML; CSS; XML; JSON; APIs; Linux Server Commands; Git

### **Graphic Design**

Adobe Photoshop, Illustrator

### **Library Systems**

Alma; ILLiad; Voyager; Omeka S; MARC; DublinCore

### **Additional Applications**

SPSS; Github; Salesforce; Adobe Experience Manager; Zotero; Canvas; Microsoft Suite; Google Suite