

## SHRADHA BIRDIKA

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Master of Science; Geographic Information Science (MS-GIS)  
Bachelor of Arts; Geography, GIS concentration, Economics minor  
**Clark University**; Worcester, Massachusetts

*Expected Graduation: May 2025*  
*Graduated Summa Cum Laude: May 2024*

### *Experiences:*

#### **Graduate School of Geography, Clark University; Worcester, MA**

##### Teaching Assistant – Python Programming and Computer Programming for GIS

*August 2024 – May 2025*

- Conducted tutorials and provided personalized guidance to over ten graduate students, improving their proficiency in Python programming for GIS applications, including spatial analysis, data visualization, and geoprocessing techniques.
- Developed and evaluated assignments alongside the course instructor, ensuring fair grading and enhancing course outcomes through personalized feedback and support.

#### **Massachusetts Department of Environmental Protection; Worcester, MA**

##### Contracted Student Intern – Total Maximum Daily Load Section

*June 2024 – December 2024*

- Built a comprehensive references database to incorporate local stormwater management bylaws for over 500 towns within specific priority MA watersheds, ensuring accurate sustainability and regulatory compliance.
- Composed Python script to automate updating of the references database using responses from Google Forms, ensuring up-to-date records and efficient data management practices for environmental planning.
- Created informational maps for pathogen-impaired waterbodies as part of targeted outreach emails to engage Town governments and Regional Planning Agencies in reviewing and updating their local ordinances.

#### **Manatee County Government; Bradenton, FL**

##### Interior Mapping Intern

*May 2023 – August 2023*

- Led an interior mapping project for the Energy and Sustainability Division, standardizing floor plans to CAD files for seamless integration into Indoor GIS software, thus ensuring accurate spatial data analysis.
- Calculated and verified interior architectural measurements, enhancing property management's decision-making capabilities that impact their climate action planning, budget planning, and energy audits.
- Presented complex project results to the County Leadership using engaging visuals and accessible language.

#### **Human Environment Research Observatory; Worcester, MA**

##### Environmental Research Fellowship

*May 2022 – December 2023*

- Facilitated a study focused on the Urban Heat Island effect in environmental justice areas of Rhode Island.
- Conducted street tree surveys, analyzed air temperature and air quality data to identify key factors contributing to temperature disparities, and formulated informed mitigation and climate resiliency policies.
- Applied Participatory GIS techniques to perform spatial analysis of perceptions of Clark University's Hadwen Arboretum by interviewing greenspace users as part of an independent research project and honors thesis.
- Evaluated resulting maps to inform strategies for arboretum development and improved visitor satisfaction.

### *Skills:*

- **Data Management and Analysis Tools:** Environmental Policy Analysis, Sustainability Reporting and Compliance (CSRD, GR, TCFD, ESG), ESRI ArcGIS Pro, ESRI ArcGIS Online Suite, QGIS, Google Earth Engine, RStudio, Microsoft Business Suite, Microsoft Power Platform, Vensim, TerrSet, NVivo, AutoCAD, PostgreSQL
- **Programming languages:** Python, HTML, SQL, CSS, Java
- **Interpersonal Skills:** Project Management, Critical Thinking, Problem-Solving, Effective Communication

### *References:*

- **Dr. John Rogan;** Professor at Clark University [\[jrogan@clarku.edu\]](mailto:jrogan@clarku.edu) | +1 (506) 793-7562
- **Dr. Yanan Wu;** Visiting Assistant Professor at Clark University [\[yanawu@clarku.edu\]](mailto:yanawu@clarku.edu) | +1 (607) 372-0368
- **Holly Brown;** Environmental Analyst at MassDEP [\[holly.brown@mass.gov\]](mailto:holly.brown@mass.gov) | +1 (303) 949-3776