CALEB KLUCHMAN

Contact: calebkluchman@gmail.com 781-999-2096 | LinkedIn: Caleb Kluchman

Clark University | Master of Science: GIS Expected May 2025
Bachelor of Arts: Data Science and Geography with Honors, Double Major, Magna Cum Laude, May 2024

Geospatial analyst and remote sensing specialist with experience in GIS, data science, and environmental research. I use Python, Google Earth Engine, and ArcGIS Pro to develop data-driven solutions for environmental and urban challenges. My work applies geospatial technologies to support sustainable development and community projects.

Experience

Remote Sensing Analyst, *NASA DEVELOP, NOAA-NCEI* *Summer 2024*

- Lead and managed analysis to find urban heat island hotspots and appropriate areas for cooling infrastructure for the City Of Asheville and Asheville Greenworks
- Worked closely in an interdisciplinary team to perform analysis and communicate results to clients and general public through maps, scientific and informal reports, and visualizations
- Used ECOSTRESS, Landsat 8, and Landsat 9 data in a combination of Python, Google Earth Engine, and ArcGIS Pro to find land surface characteristics from 2019 - 2023

Research Assistant, *Human Environment Research Observatory (HERO)* *2023 - 2024*

- Collaborated with an 8-person team to collect, analyze, and present data on urban tree mortality through presentations, posters, and a formal report to city officials, industry experts, and the press
- Conducted analysis in R, ArcGIS Pro, Terrset, Google Earth Engine, and Excel

Assistant Transit Planner, *Central Massachusetts Regional Planning Commission (CMRPC)* *2022-2023*

- Collected, analyzed, organized, and maintained transportation datasets for the City of Worcester, including ridership trends over time and across bus routes, and presented findings to support data-driven decision-making.
- Collaborated with departments across the organization on the Green Worcester 20250 plan

Teaching Assistant, *Advanced Geospatial Analytics with Python* *2024*

- Created reproducible workflows using Git and Docker alongside geospatial python packages
- Managed multiple team projects, providing resources and code support

GIS Specialist, *Clark Undergraduate Geography Association (CUGA)* *2023-2024*

- Created databases for Clark's GIS community, organized events, and provided technical assistance

Skills

- Scripting Languages / Programming Accoutrements: Python, R, Javascript, Git, Docker
- GI Systems: Jupyter Notebooks, ArcGIS Pro, Google Earth Engine, TerrSett, QGIS
- Science Communication: Presented research to DCR, City of Asheville, Geo-Health, NEARC (poster), NESTVAL (poster), Clark Center for Geospatial Analytics workshop, Clarkfest (poster)

Projects

- Mapping: Time Series Urban Heat Vulnerability with Remote Sensing in Asheville NC and Worcester MA, Access to Green Spaces in Mexico City with Remote Sensing, Urban Tree Mortality in MA, Urban Expansion in Las Vegas Nevada, Oil Palm Detection in Ghana with Deep Learning, Land Change Modeling Forest Loss in The DRC, Eucalyptus Growth Monitoring in San Francisco, CA
- Side Projects: Converting antique sewing machine to phone charger (engineering), Arboretum restoration (project management), Clark Cooking Club (collaboration between organizations)

Awards

- NESTVAL conference poster award, NEARC conference flash talk and poster awards, ClarkTank web app competition first place, NASA Open Science Certification