

# Mike Mahoney

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## Work Experience

### Community Fellow (Machine Learning)

Severna Park, MD (Remote)

FEDERATION OF EARTH SCIENCE INFORMATION PARTNERS (ESIP) - PART TIME

December 2021 - Present

- Organized and assisted with monthly meetings of the ESIP Machine Learning cluster, an organization of Earth scientists from NASA, NOAA, USGS, and academic institutions.
- Assisted inter-agency focus group in setting priorities for the use of machine learning in Earth science across federal agencies, including both potential applications and best practices.
- Assisted in organizing both the 2022 ESIP January Meeting and a conference session “Advancing FAIRness and Fairness in AI/ML in the Geo-sciences”.

### Research Assistant

Syracuse, NY

CLIMATE AND APPLIED FOREST RESEARCH INSTITUTE - ACADEMIC YEAR

August 2020 - Present

- Created best-in-class spatial models of forest aboveground biomass as part of New York State’s Climate Leadership and Community Protection Act. These models will, pending a current public comment period, be the method New York uses to track carbon sequestration in forests.
- Built cloud-based (AWS) data-delivery infrastructure to enable delivery of spatial data products to private and governmental partners, and to standardize data sharing practices across the Institute.
- Developed and taught “Machine Learning Concepts and Applications”, a one-semester graduate course on applied machine learning for scientists.

### Analyst (Workforce Management - Forecasting & Analytics)

Boston, Massachusetts

WAYFAIR INC. - FULL TIME

June 2019 - August 2020

- Developed and launched department’s first automated streaming data pipelines, connecting BuildKite, Docker, R, Python and T-SQL in order to create always-up real-time dashboards of contact center production for customer service leadership team.
- Implemented process improvements including automating long-standing reporting (transforming monthly reporting into daily updates and increasing the accuracy of analytics) and introducing Git and related workflows to department.
- Demonstrated leadership as interdepartmental liaison between partner teams on matters of metric definitions, reporting methodologies, data availability, and data access.
- Served as department subject-matter expert on technical matters (including R, SQL, Git, and Docker) on projects ranging from automating analytics to developing CI/CD workflows.

## Volunteer Positions

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|----------------|---|
| 2022 - Present | <b>The Carpentries</b> Geospatial Curriculum Advisory Committee Member.<br>Committee member helping to advise the geospatial curriculum of The Carpentries, a nonprofit dedicated to teaching researchers fundamental programming skills. |
| 2021 - Present | <b>The Carpentries</b> Instructor.<br>Instructor with The Carpentries, organizing and leading free programming workshops for early career researchers.  |
| 2019 - 2020    | <b>Code for Boston - Clean Slate Project.</b> Data Scientist and Project Manager (Volunteer).<br>Project working with Greater Boston Legal Society to advance criminal justice reform efforts.  |

## Additional Information

### Technical Skills

- Proficient in R, Python, SQL, SAS, and Linux shell languages, and combining these tools to solve multifaceted data science problems
- Eight years of experience with spatial analysis and popular GIS tooling, including ArcGIS, QGIS, and the R spatial ecosystem
- Experienced with techniques including containerization via Docker, version control via Git, and continuous integrations and deployment via BuildKite and other similar CI/CD solutions

## Education

### State University of New York College of Environmental Science and Forestry (SUNY-ESF)

Syracuse, New York

DOCTOR OF PHILOSOPHY IN ENVIRONMENTAL SCIENCE (AREA OF STUDY: COUPLED NATURAL AND HUMAN SYSTEMS)

August 2020 - Present

- Dissertation: Being There? The Use of Immersive Virtual Environments to Replicate Real-World Experiences in Nature
- Awards: New York State GIS Association Application Award (2021), Robin Hood Oak Award for Academic Excellence (2018), Robert M. Hicks Award for Academic Achievement (2018)