

Students Research Assistants

Background of Data-Driven EnviroLab (DDL)

The [Data-Driven EnviroLab](#) (“DDL”) at UNC-Chapel Hill is seeking three student research assistants to contribute a range of projects aimed to bring quantitative rigor and analysis to environmental policymaking. Research projects include measuring urban environmental performance; assessing sub-national and non-state climate action; and measuring co-benefits of renewable energy and energy efficiency. Our work has been published in high-profile academic journals, including *Nature* and *Nature Climate Change*, and has been featured in popular media, including *The Economist*, *The New York Times*, *The Atlantic*, and *Scientific American*, among others.

Student research assistants (RAs) contribute to all levels of our work, from research and writing to data analysis, visualization, and design. You will work collaboratively with full-time research staff, the faculty director, other students, and external partners all around the world. Student RAs receive training in data-driven approaches to environmental policy, which can involve statistical data analysis, quantitative research, and writing for policy audiences.

Positions are available, beginning in Fall 2021, for part-time work for the 2021-22 academic (with the possibility of extension through the summer). During the academic year, students are expected to work an average of 10 hours each week but can work up to 19 hours a week. Pay for student RAs starts at \$15/hr. Currently DDL is seeking students to fill three roles, one student programmer/data scientist, one student data analyst, and a science communications assistant.

DDL uses cutting edge data analytics to develop solutions to the world’s environmental problems. Launched in 2015, the research group is an interdisciplinary collaboration of policy experts, data scientists, visual designers, and interactive programmers across UNC-Chapel Hill and Yale-NUS College, Singapore.

Position details are found on the following pages. **Please submit your application materials prior to 17:00 ET on 8/27/2021.**

Position details

Data Analyst

We're looking for students with data science skills who are interested in using statistics and programming to assist with a range of tasks, from automated data collection, cleaning, and coding to statistical analysis and data visualization. In the past, student RAs in this role have contributed to research projects such as [Global Climate Action from Cities, Regions, and Companies](#), as well as analysis of net-zero targets, and developed indicators to measure [urban environmental sustainability](#). Ability to code in R is highly preferable.

Required Qualifications:

- Ability to analyze and visualize data,
- Background in statistical concepts as evidenced by previous work or coursework,
- Ability to collect, manipulate, and clean data
- Familiarity with R
- Presenting in-progress and final results at internal and potentially external meetings
- Ability to communicate analytical findings, including academic publications and public-facing communications (blogs, background papers, etc.)
- Participating in research meetings

Preferred Qualifications:

- Ability to work with R tidyverse framework and write tidy code
- Experience with statistical modeling
- Experience with computational methods commonly used in the social sciences (cluster analysis, PCA, etc.)
- Familiarity with natural language processing and text-based analytics (topic modeling, sentiment analysis, etc.) is a plus
- Experience with website maintenance (WordPress)
- Experience with literature review and synthesis or desire to learn

To apply, send a resume, cover letter, and any other relevant materials (code samples, Github page, writing samples, etc.) to brendan.mapes@unc.edu with the subject "DDL Data Analyst RA application". Please indicate in the body of the email your availability to start.

Data Engineer/Programmer

We're looking for computer science students who are interested in practical programming experience to assist with a range of tasks, from big data mining to development of front-end data visualizations and graphics. In the past, we've had programmers help build databases, scrape public data sources, and develop machine learning models.

Required Qualifications:

- Experiences with working with large structured data and unstructured data (geospatial, weather, etc)
- Experiences with statistical analysis, data visualization packages in R or Python;
- Experiences with Web Scraping tools, packages, and methods in Python;
- Possess excellent technical writing skills for documenting database structure and content.
- Possess excellent communication skills, both written and verbal. Be able to independently prepare correspondence and write/edit/produce reports.

Preferred Qualifications:

- Knowledge of the basics of GIS and remote sensing.
- Work on open-source geospatial calculation tools utilizing GIS (QGIS or ArcGIS) in a Bash environment utilizing command-line tools (GDAL/OGR/GRASS);
- Experiences with geospatial data Python libraries (GDAL, rasterio, geopandas, Shapely, etc)
- Development and maintenance of database tools written in open source languages (PostgreSQL, SQLite, etc.);
- Experiences with data extraction and data analysis with Google Earth Engine (Javascript)
- Experiences with iOS application development (Swift)
- Presentation of data and research findings in attractive, web accessible visualizations (RShiny, Javascript/d3);
- Presentation of data and research in map-based formats (Tableau, CartoDB, Javascript/Leaflet)

To apply, send a resume, cover letter, and any other relevant materials (code samples, Github page, writing samples, etc.) to xuewei.wang@unc.edu with the subject "DDL Data Engineering/Programmer application". Please indicate in the body of the email your availability to start.

Science Communications Assistant

Are you passionate about storytelling and data-driven journalism? We are looking for strong communicators to work with our team on popular writing, blogging, social media and outreach. We have excellent relationships with reporters and major media organizations, including The Atlantic, Grist, Scientific American, among others. We're looking for science communications assistants looking to build a writing portfolio to work with our team to write regular blogs, share updates via Twitter and other social media channels, update our website, assist with press releases and report launches.

Required Qualifications:

- Strong writing and communications ability;
- Experience with crafting timely, professional, and engaging social media messages on Twitter and LinkedIn;
- Ability to be responsive, available at a moment's notice if there is breaking news or a need for immediate press/media response;
- Experience writing for popular and diverse audiences (e.g., not just academic writing experience);
- Ability to translate technical language into easily accessible writing.
- Be able to work independently, show initiative and creativity.

Preferred Qualifications:

- Majoring in journalism or communications.
- Experience with online content management systems (i.e., Wordpress);
- Experience using online graphic design software like Canva;
- Experience with Adobe Creative Suite, such as Premiere Pro, Illustrator, InDesign, and Photoshop a huge plus.
- Experience working with reporters and media organizations a huge plus.

To apply, send a resume, cover letter, and any other relevant materials (writing samples, etc.) to brendan.mapes@unc.edu with the subject "DDL Science Communications Assistant application".