# Mapper | Full-stack Engineer

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# **Experience**

Programmer Analyst - University of Wisconsin Geoscience - May 2013 to Present

Lead engineer of Macrostrat, an NSF-funded project. Design, build, and implement full-stack web and mobile applications, including database design, API authoring, and front-end development. Create open source tools and utilities to enable scientific research.

#### Rockd

https://rockd.org

Designed, developed, and marketed an iOS and Android app for geologic data discovery and collection. Downloaded over 30k times and has over 7k registered users.



## Paleobiology Database Navigator

https://paleobiodb.org/navigator

Created the first interactive adaptive map for exploring the world's fossils. Four years after launch it has more than 5k monthly users who spend an average of 2.5 minutes interacting with the app.



# Macrostrat Geologic Map

https://macrostrat.org/map

Developed a spatial database, algorithms, and related infrastructure for programmatically integrating geologic maps at any scale. Finding the rock under your feet used to take hours. Now it takes  $\sim 100 \text{ms}$ .



#### Macrostrat API

https://macrostrat.org/api

Authored a REST-ish API for geologic data. Used in numerous mobile apps and by scientists around the world. Gracefully handled 28 million requests in 2017.



### Spatial IT Research Intern - CFIRE - Oct. 2012 to Apr. 2013

Support freight infrastructure research by creating map-based visualizations using Leaflet, D3, and Python.

## GIS/Web Support Technician - Wisconsin State Cartographer's Office - Nov. 2011 to Jan. 2013

Maintain online GIS databases and custom web mapping applications. Thoroughly document procedures and metadata using internal wiki. Support long term projects and publications with research and design expertise. Build a custom web mapping application using Leaflet and PostGIS.

### **Education**

## University of Wisconsin - Madison

Graduate Certificate, GIS Dec. 2012 Bachelor of Arts, Political Science May 2011

