

# Chinna Subbaraya Siddharth Ramavajjala

GIS - Analyst / Engineer / Developer / Specialist

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Highly skilled GIS Professional leveraging progressive experience in driving geospatial projects. Analytical Expert in the interpretation and analysis of geographical data collected through geospatial technologies including GIS, and GPS. Detail-oriented and Strategic GIS analyst with a consistent record of improving processes and data accuracy. Visionary Leader with a keen ability to manage teams and drive GIS initiatives that foster operational improvements.

Maps portfolio link - <https://sidrcs.github.io/maps/Maps.html>

GitHub link - <https://github.com/Sidrcs>

## Technical Skills

- Programming Languages and Geospatial Tools: Python - Geopandas, Shapely, Rasterio, PDAL, Whitebox Tools, OpenStreetMaps (OSMnx), Arcpy, Kepler GL, JavaScript - Leaflet, D3, Mapbox, HTML, CSS, Bootstrap.
- Databases: MongoDB (PyMongo), PostGIS & PostgreSQL, ArcSDE, RasDaMan DB.
- Software: ArcGIS Pro, QGIS, ArcMap, Adobe Illustrator (Ai) for Maps, Advanced Excel, ArcGIS Story Maps, ArcGIS Online (AGOL), Docker, Google Earth Pro, GitHub, MapBox, NeuraMap, NeuraLog, Petrel.

## Accomplishments

- Presented a paper titled “Enhancing Cartographic Design Through Artificial Neural Networks: A Geometric Approach for Map Generalization at the 43rd North American Cartographic Information Society conference in Pittsburgh, PA in October 2023.
- Earned the esteemed Barbara Petchnick award for Graphic Design for the "Understanding Mars: The Goldilocks Planet" map,
- Published a paper titled “Environmental Sustainability of Drilling Fluids” in IIT-ISM Dhanbad conference indexed by Elsevier (2022).

## Professional Experience

### National Renewable Energy Laboratory, Golden, CO

05/2023 – Present

Computer Science - II Intern (GIS)

- Delivered NoSQL database strategies for LiDAR data management which improved data discoverability by 30%. Performed geospatial big data engineering and geodatabase benchmarking, thus reducing data storage by 15-40%.
- Devised a Python package to maintain the geospatial database framework using on-premises - MongoDB, RasDaMan and hybrid solutions - Amazon Web Services (AWS) S3, resulting in a 20% increase in geospatial data accessibility and processing efficiency.

### Wisconsin Sea Grant, Madison, WI

02/2023 – 04/2023

Graduate Project Assistant (GIS)

- Cultivated comprehensive data transfer strategies for Great Lakes ArcGIS Story Map Series towards ArcGIS Experience Builder which boosted user engagement by 25%.
- Crafted dynamic user interface interactive patterns and provided map user experience enhancement strategies, yielding a 30% surge in website visibility.

### University of Wisconsin-Madison, Madison, WI

09/2022 – 12/2022

Teaching Assistant (GIS)

- Instructed the lab component of Geog 377: Introduction to Geographic Information Systems (GIS) using ArcGIS Pro 3.0 under the guidance of Professor A-Xing Zhu, catering to a group of 81 scholars.

### UW-Madison Brown County Extension, Madison, WI

05/2022 – 09/2022

GIS Analyst Intern

- Formulated web interface and map viewer for community gardens, employing AGOL, for the Food Wise team at Brown County leading to a 15% increase in community support.
- Utilized ArcGIS Pro to perform food desert and network analysis in alignment with USDA guidelines, resulting in a 20% reduction in food access disparities. Offered an engaging and informative medium through ArcGIS StoryMap.

- Compiled and examined food source data across four counties - Brown, Door, Kewaunee, and Manitowoc, developing an efficient public-moving interactive map feature that attracted over 18K views via GoogleMyMaps.
- Implemented a Google Sheets-oriented solution, enabling non-GIS users to seamlessly update AGOL web maps, reducing data update time by 40%.

### Larsen and Toubro Infotech (LTI), Mumbai, India

01/2019 –01/2021

#### Geodata Analyst

- Orchestrated an extensive geodata management project, including shapefile creation and polygon boundary formulation, leading to a 30% enhancement in data organization efficiency.
- Undertook geo-tagging and data digitization utilizing QGIS and SQL, resulting in a 35% increase in data discoverability. Partook as a functional tester on the Mosaic automation tool, reducing geo-tagging query time by 2 minutes.
- Implemented data quality assurance and quality control mechanisms through Excel-based tools, reducing error rates by 16% using a keywords-based error mitigation strategy.
- Led 12 team members as a sublayer QC, overseeing an enterprise-level initiative, saved 6 USD on invoice penalties per document.

### Additional Experience

#### Wisconsin Geological and Natural History Survey (WGNHS), Madison, WI

##### GIS Database Assistant

- Synchronized geological data as part of a USGS data preservation initiative, making a substantial contribution to the creation of Wisconsin's Mineral Development Atlas (MDA), which saw a 20% increase in data completeness and accuracy.
- Constructed spatial database via ArcSDE, culminating in attribute editing of over 10k lead and zinc mines across southwestern Wisconsin counties, integration of legacy raster data through ArcPy.

### Education

MS in GIS & Cartography (CGPA 4.00/4.00), **University of Wisconsin-Madison, Madison, WI, 2023**

BS in Petroleum Engineering (CGPA 9.71/10.00), **Vignan's University, India, 2019**

### Professional Projects

- **Digitization of Subsurface Data – L&T Infotech, Mumbai** | Extracted essential metadata from seismic data, derived navigation data, created shapefiles, and drafted polygon boundaries with a collective 25% increase in data accuracy.  
Link - <https://drive.google.com/file/d/1gCnPUJhIUF7XlwMqIJJoV3ecqtoGdid2n/view>
- **Veterinary Clinics Database** | Developed a database for exploring equitable access to veterinary care in Madison, WI using Postgres/PostGIS which resulted in a reduction in query time by 2000 ms for identifying veterinary deserts.  
Link - [https://github.com/Sidres/vet\\_clinics\\_db](https://github.com/Sidres/vet_clinics_db)
- **Polaris Lab UK** | Created an interactive bivariate choropleth map with coordinated multi-visualization using JavaScript (D3.js) resulting in a 40% increase in user engagement and data comprehension, as indicated by user surveys and feedback.  
Link - <https://sidres.github.io/Polaris-Lab-UK/>
- **Landuse and Landcover Analysis - Geosys Enterprise Solutions, Hyderabad** | Prepared and analyzed data, identified relevant details from satellite imagery for municipal solid waste disposal facility construction.

### Certifications

Cartographic Design, ESRI

Data Analysis using Python, IBM

Certified GIS Data Developer, Geosys Enterprises (ESRI Bronze Partner)

Environment, Health & Safety, IIT Madras