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EDUCATION

University of Wisconsin - Madison | MS in GIS & Cartography   *Jan 2022 - Dec 2023* (CGPA: 4.00/4.00)*
Courses: Geographic Information Systems (GIS), Cartography, Geocomputing, Advanced Spatial Analysis, Graphic Design in Cartography, Advanced Geocomputing & Geospatial Big Data Analytics, Interactive Cartography & Geovisualization, Design & Development of Spatial Databases*

Vignan's University, India | BS in Engineering   *Jul 2015 - Aug 2019 (CGPA: 9.71/10)*
Major: Geology, Geography, Probability & Statistics, Health Safety and Environment (HSE), Petroleum Engineering Minor: Project Management, Managerial Economics

TECHNICAL SKILLS

Programming Languages: Python, HTML, CSS, Bootstrap, JavaScript.
Geospatial Libraries: **Python** - Geopandas, GDAL, PDAL, OpenStreetMaps (OSMnx), Arcpy, Kepler GL, Shapely, Pyproj, PySAL, rasterio, Whitebox tools*, reV. **JavaScript** - Leaflet, D3, Mapbox
Databases: MongoDB (PyMongo), PostGIS* & PostgreSQL, ArcSDE, RasDaMan DB*
Software Tools: ArcGIS Pro, ArcMap Desktop, Adobe Illustrator (Ai) for Maps, Advanced Excel, ArcGIS Story Maps, ArcGIS Online (AGOL) Docker, Google Earth Pro, GitHub, MapBox, NeuraMap, NeuraLog, Petrel, QGIS
Geospatial Analytics: Digital Terrain Analysis, Raster & Vector Bigdata processing, Network Analysis, Food desert analysis.

WORK EXPERIENCE

Computer Science - II Intern (GIS), National Renewable Energy Laboratory   *May 2023 - Dec 2023**
- Delivered **NoSQL** database solution for LiDAR data storage. Designed flexible **Python API** wrapping **complex GIS workflows** to create products like Normalized DSM (nDSM), DEM, and DSM with OGC Metadata Standards.
- Performed data engineering with geospatial big data (raster, vector) and geodatabase benchmarking. Developed Python functions to generate nDSM using **USGS TNM API**. Automated raster clipping for reV exclusion layers.
- Designed and tested **geospatial database architecture** using on-prem/hybrid solutions - MongoDB, RasDaMan, AWS RDS, MS Azure. Developed and distributed Python package (**rdipy**) for GIS data management with common workflows.
- Collaborated with GIS and computational science experts to develop Research Data Infrastructure (**RDI**) that reduces expertise threshold to work with geospatial data by implementing **Knowledge-Graph** based data discovery service.

GIS Analyst Intern, UW-Madison Brown County Extension   *May 2022 - Sept 2022*
- Performed extensive spatial & network analyses. Created an ArcGIS Online **(AGOL)** web application and web map viewer for community gardens. Access Report
- Gathered and organized food sources data in Brown, Door, Kewaunee, and Manitowoc counties. Created a successful public-facing interactive map product maneuvering over **18,000 views** using GoogleMyMaps.
- Designed a Google Sheets-based solution that allows non-GIS users to effortlessly update web maps. Conducted food desert and network analyses using socio-demographic & road network data, following **USDA** standards. Published knowledge sharing product using ArcGIS StoryMap.

Geodata Analyst, Larsen and Toubro Infotech (LTI), Mumbai, India   *Jan 2019 - Jan 2021*
- Worked on a **big geodata management** project, creating shapefiles & polygon boundaries. Developed quality control (**QC**) methods by creating Excel-based tools and contributed as functional **tester** on **Mosaic** automation tool.
- Delivered advanced processed geodata products: Seismic, Well log, Maps, Reports using NeuraMap, Neuralog for **Exxon Mobil (US)**. Improved data processing quality using a keywords-based error mitigation mechanism.
- Managed **12** resources as a sublayer QC and provided an enterprise-level solution which reduced data errors by **16%** which resulted savings in data processing time by **two minutes** and **6 USD** on invoice fines per document. Performed geo-tagging and data digitization using QGIS and SQL.

ASSITANTSHIPS @ UNIVERSITY OF WISCONSIN – MADISON

Graduate Project Assistant (GIS) - Wisconsin Sea Grant *Feb 2023 - Apr 2023*
- Developed meticulous data migration solutions for Great Lakes ArcGIS Story Map Series to **ArcGIS Experience Builder**. Designed user interface (UI) interactive wireframes and delivered map user experience (UX) improvement solutions resulting in a **30%** increase of website outreach.

Teaching Assistant (GIS), University of Wisconsin-Madison *Sep 2022 - Dec 2022*
- Responsible for teaching the lab component for Geog 377: Introduction to Geographic Information Systems (GIS) using ArcGIS Pro 3.0 under Professor A-Xing Zhu for a cohort of **81 students**.

GIS Database Assistant, Wisconsin Geological and Natural History Survey (WGNHS) *Apr 2022 - Sept 2022*
- Designed spatial database using ArcSDE and performed attribute editing for **10,000** lead and zinc mines of southwestern Wisconsin counties using legacy raster data. Synchronized geologic information for **USGS** data preservation project and contributed to Wisconsin's Mineral Development Atlas (**MDA**).

ACHIEVEMENTS & PUBLICATIONS

- To present a paper titled "**Enhancing Cartographic Design Through Artificial Neural Networks: A Geometric Approach for Map Generalization**" at 43rd North American Cartographic Information Society (**NACIS**) **conference** in Pittsburgh, PA in October 2023*
- To present a poster titled "**Geospatial data platform for all**" using knowledge-graph at the **US Department of Energy's Data Days Conference** in Washington DC in October 2023*
- Published a paper titled "**Environmental Sustainability of Drilling fluids**" in IIT-ISM Dhanbad conference indexed by **Elsevier** (2022).
- Received **Barbara Petchnick award for Graphic Design** in recognition of the map titled "**Understanding Mars: The Goldilocks Planet**" for the academic year 2022 - 2023.
- Received **gold medal** for academic excellence and **best outgoing student** for overall contribution during 2015-19 at Vignan University.

MAPS

- **Static**: Detailed Map of Mars | Indus Valley Civilization | How healthy is Wisconsin? | Political Map of Africa
- **Interactive**: Political Polarization in the UK (D3) | Wisconsin Social Indicators Map (D3) | US Crude Oil Production Map (Leaflet) | Postal Slippy Map (Mapbox) | Zero Road deaths Vision (AGOL)

CERTIFICATIONS

- Cartographic Design from ESRI | Data Analysis using Python from IBM | Certified GIS Data Developer from Geosys Enterprises (ESRI Bronze Partner) | Environment, Health & Safety from IIT Madras

PROFESSIONAL PROJECTS

Landuse and Landcover Analysis - Geosys Enterprise Solutions, Hyderabad
- Data preparation, data analysis, data identification from satellite imagery data for municipal solid waste disposal facility construction.

Digitization of Subsurface Data - Larsen & Toubro Infotech, Mumbai
- Developed several quality control methods for vintage seismic survey maps, well logs extracting metadata, navigation data, creating shapefiles, and polygon boundaries. Access Report