Ramakrishna Raju Gangaraju

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SUMMARY

Geographic information systems professional in geospatial analytics, data management with GIS software tools, programming languages, and spatial database queries. Cross-functional team & vendor collaboration through effective communication, & leadership to solve geospatial data problems and create visually compelling GIS solutions.

EDUCATION

University of Wisconsin-Madison | MS in Geographic Information Systems | January 2022 - December 2023 | GPA 3.75/4

Courses: Intro GIS, Geospatial Big Data analytics, Spatial Databases, Cartography, Interactive Visualization.

Vignan's University | Bachelors (Major: Mechanical, Minor: Information Technology) | July 2015- June 2019 | GPA 3.0/4

EXPERIENCE

GIS Analyst | EarthDefine LLC, USA **Full Time | January 2024 - Present**

- Designed and implemented geospatial procedures for developing large-scale land cover classification projects by ensuring systematic and accurate analysis of geographic data for informed decision-making
- Utilized in-house AI-driven model scripts to train image classification models for enhancing project outcomes by boosting accuracy and operational efficiency.
- Updated and refined geospatial data products with metadata standards to uphold data quality, and precision to meet the highest industry standards.
- Generated project QC methods via comprehensive documentation(workflows, quality checks, reports), resulting in a significant 99% decrease in defects, elevating quality within a timeline, and fostering team knowledge transfer.
- Delivered ongoing support to various projects per organizational needs, adeptly prioritizing tasks to ensure seamless project management workflow continuity across multiple initiatives.

GIS Associate| EarthDefine LLC, USA **Intern - Full Time | July 2023 - December 2023 | 6 Months**

- Conducted tree canopy analysis to track changes in tree cover over time based on NAIP, LIDAR data, utilizing Python GDAL/OGR programming and generated statistical reports with a combination of ArcGIS Pro + Python pandas.
- Streamlined geoprocessing techniques by minimizing pipeline through automated steps required to generate final output, resulting in a 30% reduction in project delivery time.
- Engineered an ArcGIS Dashboard tailored to our in-house database, enabling real-time monitoring of data availability by location and time to ensure the continual integration of the latest data and expanded data coverage.
- Diligently documented project data, workflows, and resource information to establish robust data maintenance protocols

Graduate GIS Fellowship| University of Wisconsin-Madison, USA **Part-Time | May 2023 - August 2023 | 4 Months**

- Analyzed coastal bluff erosion via Remote sensing data and geospatial methods with ArcGIS tools, identifying erosion-prone areas and guiding control measures, reducing coastal management facility's projected erosion costs by 20%.
- Collaborated with Wisconsin Sea Grant coastal Risk analysis development team to create precise FEMA floodplain Depth Grids using geospatial automation with Python, JavaScript, and ESRI integration, enhancing flood risk evaluation with DFIRM data.
- Conducted regular data validation checks and documentation, contributing to the integrity of research findings in coastal bluff erosion

Graduate Project Assistantship | University of Wisconsin-Madison, USA **Part-Time | May 2022 - May 2023 | 1 Year**

- Engineered ESRI-powered geospatial web applications dashboards with user experience design for crop yield distribution, optimizing resource allocation by 30% and contributing to development in overall agricultural production for Wisconsin.
- Implemented ESRI Network analysis tool to develop routing, spatial demographic stats resulting in a 25% increase in enhancing stock availability and quality optimization in alignment with customer demands and increasing delivery targets of farmers goods to the market.
- Created detailed documentation for ESRI geospatial web applications and network analysis workflows, including user manuals, technical specifications, and code documentation.

GIS Analyst | Sarala Project Works Pvt Ltd, INDIA **Full Time | July 2019 - October 2021 | 2 Years 3 Months**

- Employed advanced geospatial analysis techniques to optimize construction planning processes, including road layout, underground water pipes, and above and below-ground electric & tele lines as per demographic and environmental measures which led to a 30% reduction in project maintenance budget by enhancing the understanding of construction requirements and minimizing future maintenance needs.
- Led comprehensive in-house database server, facilitating easy access to vital construction site spatial data and project plans with up-to-date data collection, and data manipulation, with quality control measures that reduced data inaccuracies.
- Generated comprehensive reports, writing, and presenting data in visually compelling tabular and graphical formats using Power BI, and Tableau for data-driven decision-making, resulting in a remarkable 25% improvement in project efficiency.
- Performed effective collaboration among engineering, operations, and project teams to maintain 100% accessibility of GIS data and maps, facilitating effective technical support towards informed decision-making with project managers.

SKILLS

- **GIS Tools:** ESRI ArcGIS Pro, ESRI Online, ESRI Enterprise, Google Earth Pro, QGIS, Open Street Maps, Autodesk CAD, MapBox
- **Spatial libraries**: Python, JavaScript, SQL, PostgreSQL / PostGIS, Pandas, GeoPandas, GDAL, OGR, OSMNX, Rasterio, JSON, HTML5, CSS, Bootstrap, leaflet, D3
- **Big Data Techniques:** Spatial Autocorrelation, Point Pattern Analysis, Spatial Interpolation, Decision Trees, Regression, Clustering.
- **Other skills**: Adobe Acrobat, Illustrator, Photoshop, Tableau, Power BI, Microsoft Word, PowerPoint, Excel, Outlook, Google Suite, GitHub, Network Analysis, Windows, Mac, Map Production

PROJECTS

- **Bivariate Map:** Utilized ArcGIS tools to conduct spatial analysis on USA veterans' distribution and demographics. Developed a Chernoff design into a bivariate map to visualize the relationship between these variables, providing insights into the geographic distribution and characteristics of veteran populations across the country.
- **Story Map**: Leveraged ESRI tools and satellite imagery remote sensing data to analyze glacier cover change over multiple decades. Through spatial analysis techniques, identified patterns and trends in glacier retreat or expansion, and highlighted the significance of glaciers in global warming mitigation efforts through an interactive story map presentation.
- **Dashboard Map:** Applied GIS analysis techniques to integrate business analytics capabilities into an ArcGIS dashboard for Farmers Market, SNAP, and demographics data. Conducted spatial analysis to identify correlations and spatial patterns within the data, enabling stakeholders to make informed decisions and streamline complex workflows through a centralized dashboard interface.
- **Interactive UI UX Map:** Conducted geospatial analysis using Python and JavaScript to examine political polarization in the UK. Developed an interactive user interface with spatial visualization components, allowing users to explore spatial patterns of political affiliation and polarization across different geographic regions, contributing to a deeper understanding of socio-political dynamics.