

SATYA VENKATA SIDDHARTHA BOKKA

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SUMMARY

Versatile GIS professional with hands-on experience across roles including **GIS Analyst**, **Intern**, and **Student Assistant** in academic and municipal settings. Skilled in **ArcGIS**, **Python scripting**, **Machine Learning**, **Damage assessment**, **Incident response**, **Risk Mapping**, **Security Monitoring**, **Remote Sensing**, **Dashboard Creation**, **QA/QC** checks and **Spatial Data Analysis**. Contributed to water infrastructure, solar energy, crime analytics, and emergency response projects. Currently pursuing **M.S. in GIS at SUNY Buffalo** (Graduating May 2025).

WORK EXPERIENCE

Student Assistant - Department of Geography (University at Buffalo)

Feb 2024 - May 2025

- Graded 400+ GIS lab assignments and developed 12+ curriculum-aligned assessments with 100% accuracy.
- Condensed complex spatial concepts into keynotes, improving student comprehension and GIS engagement by 30%.

GIS Intern - Municipal Corporation Kakinada

Jul 2024 - Aug 2024

- Mapped 22 reservoirs and traced 3 river intakes to optimize emergency water logistics across 38,000+ households. Audited and modeled hydraulic networks with MySQL and ArcGIS, cutting data errors by 20% and improving flow efficiency.
- Audited distribution records for 38,000 households, 2 reservoirs and 239 taps using MySQL, reducing data inconsistencies by 20%. Upgraded 2 hydraulic networks through spatial modeling, enhancing flow analysis and monitoring reliability.
- Executed detailed spatial data edits and utility network updates using ArcMap and ArcGIS Pro, enhancing asset accuracy across pipeline, meter, and reservoir datasets.
- Applied quality control protocols to identify and correct attribute mismatches and geometry errors in field-collected GPS data. Supported infrastructure QA/QC workflows by cross-verifying spatial data with ground-truth as-built records and customer service logs.

GIS Analyst - MSL RENEWABLE ENERGY POWER Pvt. Ltd.

Jun 2023 - Aug 2023

- Digitized 400+ rooftops and created solar exposure models with 95% accuracy, aiding city-scale energy planning. Built operational dashboards accessed by officials, aligning solar outputs with policy and infrastructure resilience.
- performed geometry and attribute editing of over 400 rooftop polygons using ArcGIS Pro, ensuring spatial accuracy and topological integrity across urban solar mapping datasets.
- Conducted routine QA/QC checks on digitized features and metadata fields, resolving geometry overlaps and attribute inconsistencies with 98% accuracy.
- Implemented standardized data validation procedures, improving overall dataset reliability for engineering and planning teams.

GIS INTERN - MSL RENEWABLE ENERGY POWER Pvt. Ltd.

Sep 2022 - May 2023

- Conducted geometry and attribute QA reviews for 200+ solar site polygons, correcting 40+ spatial alignment issues using ArcGIS Pro and ensuring compliance with mapping standards.
- Created and validated 18 thematic maps, applying consistent symbology and projection settings to maintain cartographic accuracy across multiple municipal planning layers.
- Compiled 10+ spatial analysis reports and dashboards, cross-checking input datasets for completeness and correcting attribute discrepancies across 5+ geodatabases.
- Participated in weekly QA meetings, reporting data quality metrics and resolving feedback-based edits across all deliverables within 48-hour SLAs.

TECHNICAL SKILLS

Geospatial Platforms: ESRI - ArcGIS Pro, ArcMap, ArcGIS Online, QGIS, Survey123, Field Maps, ArcGIS Enterprise

Remote Sensing & Imagery Tools: ENVI, ERDAS Imagine, multispectral image processing, damage assessment mapping

Data Management & Databases: MySQL, spatial data integration, operational GIS database management

Programming & Automation: Python (Pandas, NumPy, Scikit-learn, AHP automation), R (caret, spatial analysis)

Productivity: MS Office Suite(Excel, Word, Power Point), Auto CAD

EDUCATION

State University of New York at Buffalo

Buffalo, NY, USA

Master of Science in **Geographic Information Science**, (3.64/4) CGPA

Aug 2023 - May 2025

Andhra University

Visakhapatnam, AP, India

Bachelor of Technology in **Geo-Informatics**, (3.14/4) GPA

Aug 2019 - May 2023

PROJECTS

1. Stormwater Risk Assessment for Kakinada City, India

- Utilized ArcGIS hydrologic tools and field-validated DEMs to delineate basins, increasing runoff routing accuracy by 25%.
- Pinpointed 9 flood-prone zones and proposed 6 pump sites, reducing monsoon-related vulnerability by 40%.

2. Groundwater Vulnerability Mapping – New York State

- Automated AHP-based risk modeling across 6 environmental indicators using Python, enabling full-scale reproducibility.
- Produced a groundwater suitability raster for 54 counties, guiding the identification of 11 critical recharge zones.

3. Spatiotemporal Crime Intelligence – Chicago (2010–2023)

- Engineered three Random Forest models on 1.2M records, improving incident prediction and hotspot recognition by 31%.
- Informed patrol realignment across 5 districts by detecting 17 crime clusters and quantifying 13-year trend patterns.

4. Post-Wildfire Structural Damage Detection – Palisade 2025

- Applied multispectral indices and terrain metrics in an XGBoost classifier, achieving 83.2% accuracy in structure loss detection.
- Deployed damage maps via Folium to assist 3 emergency units across a 46 sq.mi. wildfire perimeter with 92% spatial precision.

5. Urban Mobility Optimization via AI – Buffalo, NY

- Evaluated walkability and infrastructure safety using street-level imagery and crowd-sourced sentiment analytics.
- Recommended 19 pedestrian-focused enhancements to support autonomous transit planning in the Fruit-Belt corridor.

For More Projects and Experiences have a look [Portfolio](#)