ANN NIBANA STEPHEN LAL

GIS ANALYST, Dallas, TX

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Web-portfolio: https:/gisannmap.github.io

GitHub link: https://github.com/gisannmap

About me

I'm a GIS Analyst and Master's student of The University of Texas at Dallas. My work so far has focused on spatial and remote sensing data, with hands-on experience in georeferencing, map editing and feature digitization using Arcgis and Qgis platforms. I've explored land use change detection, risk zone modeling and Cloud and Web GIS workflows using Google Earth Engine, ArcGIS Online and the ArcGIS API for Python. I work with Jupyter also with satellite and drone imagery, applying spectral analysis and both supervised and unsupervised classification. I'm currently expanding my skills in applying machine learning techniques for geospatial object detection.

GIS Software & Tools

- GIS Platforms: ArcGIS Pro, QGIS, Drone2Map
- Programming: Python, R
- Python Libraries: Folium, GeoPandas, Matplotlib
- Remote Sensing: Spectral analysis, supervised/unsupervised classification, satellite/drone imagery analysis
- Cloud &Web GIS: Google Earth Engine, ArcGIS Online, ArcGIS API for Python, ArcGIS Online, Leaflet
- Spatial Data Management: Shapefiles, GeoJSON, Geodatabases
- Spatial Analysis: Georeferencing, overlay analysis, land-use change detection, risk zone modeling
- Visualization: Jupyter Notebooks, ArcGIS Notebooks

Education

Masters in Geospatial Information Sciences — **August 2024 - Present**
University of Texas at Dallas, United States of America

Diploma in Geo-Information science and Technology — **December 2021 – 2022**
University of Kerala, India — GPA: 7.95 / 10

Masters in Physics — **October 2016- August 2018**
Bishop Moore College, India — GPA: 7.26/10

Bachelor of Physics — **July 2013- March 2016**
Bishop Moore College, Kerala, India — GPA: 7.92/10

Projects Undertaken — (2025-2022)

Object detection using DOTA dataset and training using YOLOV8

- Detect objects here airplanes in aerial images using the **DOTA dataset** and the **YOLOv8s** model.
- The YOLOv8 model trained on the prepared dataset preprocessing, data augmentation and validation steps to improve detection performance.
- The trained model accurately detects objects in test images and the outputs are visualized through an interactive Python-based interface.

Kerala Landslide & Rainfall Trends Visualization

- Developed an interactive map of Kerala using Python's Folium.
- Integrated GeoJSON for district boundaries.
- Used Matplotlib to visualize rainfall trends and landslide severity.

Human-Elephant Conflict(HEC) & Forest Fire Risk Assessment

- Used Weighted Overlay Method with six layers (Distance to Agriculture, Elevation) to map high-risk HEC zones.
- Applied Frequency Ratio Method with 14 layers to identify fire-prone areas in Muthanga Wildlife Range.
- Found significant overlap between high-risk HEC and fire-prone zones in Muthanga, driven by settlements and agriculture, urging integrated management.

Land Use Change Detection – Norcia, Italy

- Analyzed pre- and post-earthquake land patterns (2016 Italy earthquake).
- Used remote sensing & GIS techniques for land-use classification.

Project Analyst Trainee — **06/2022 – 09/2022**
Sysh Innovations Pvt Ltd.

- Digitized property sketches using Apex software, improving accuracy and accessibility of property data.
- Verified and updated property layouts by cross-checking with county records and GIS datasets.
- Extracted and mapped building features from aerial imagery to enhance geospatial data quality.
- Supported county-level digitization projects, improving data accessibility and accuracy for property assessment.

Languages

English (IELTS, Band score:8)