SASANAM MADHU

Data science Engineer

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SUMMARY

Passionate Data Science Engineer with hands-on experience in deep learning, GIS, and computer vision. Skilled in analyzing large satellite datasets and developing semantic segmentation models for land-use classification. Strong foundation in Python, PyTorch, and remote sensing, with a commitment to building data-driven solutions for environmental and real-world challenges.

KEY ACHIEVEMENTS

Developed a DeepLabV3-based semantic segmentation model to classify multispectral satellite images into land-use categories with high accuracy.

Applied data augmentation, normalization, and patch-based training to handle large-area images efficiently.
Achieved over **90% segmentation accuracy** on validation datasets.

INTERESTS

Artificial Intelligence in Geospatial

EXPERIENCE

Research Intern – Geospatial Deep Learning Project

National Remote Sensing Centre (NRSC), Hyderabad (Remote)

2025 - 2025 Hyderabad

A research-driven initiative focused on applying **artificial intelligence and deep learning** techniques to **geospatial and remote sensing data**.

- Improved segmentation speed by **60%** through patch-based model training and GPU optimization in **PyTorch**.

PROJECTS

Land Use Classification using DeepLabV3 (Geospatial Deep Learning)

2022 - 2023 parlakhemundi

Developed a **DeepLabV3-based semantic segmentation model** in **PyTorch** to classify multispectral satellite images into land-use categories such as urban, vegetation, water, and barren land. Preprocessed large

- The project achieved a **90% segmentation accuracy**, successfully generating **high-resolution RGB land-use maps** that accurately distinguished urban, vegetation, water, and barren areas. This automation **reduced manual GIS mapping time by 80%**, enabling **faster and more reliable land-use analysis** for urban planning and environmental monitoring.

EDUCATION

Bachelor of Technology in Computer Science and Engineering (CSE)

Centurion University

2021 - 2025

SKILLS

Python **SQL** **PyTorch** **TensorFlow** **Scikit-learn** **QGIS** **GDAL**

COURSES

Deep Learning Specialization

Remote Sensing & Image Analysis

Remote Sensing & Image Analysis

LANGUAGES

English, telugu, hindi

Advanced