

SRINIVASAN MANI



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PROFILE SUMMARY

Geospatial data engineer with 6+ years of experience in space weather research, GNSS data processing, and large-scale geospatial analytics. Experienced in enhancing ionospheric monitoring systems through interactive visualization tools, scalable spatial databases, and OGC-compliant web services. Proven track record of leading geospatial projects that improved routing efficiency and data accuracy across complex operational networks. Skilled in Python, PostGIS, GeoServer, and QGIS, with a focus on high-performance ETL pipelines, spatial data infrastructure and visualization for scientific and industrial applications.

PROFESSIONAL EXPERIENCE

INTERN - GERMAN AEROSPACE CENTER (DLR), NEUSTRELITZ

MAR 2025 – SEP 2025

- Enhanced the Ionosphere Monitoring and Prediction Center (IMPC) data infrastructure by designing scalable database schemas for scintillation and Total Electron Content (TEC) datasets.
- Built and deployed interactive Marimo visualisation tools for exploring electron density distributions from the Neustrelitz Electron Density Model (NEDM).
- Developed Python-based preprocessing pipelines to clean, transform, and integrate large ionospheric datasets into a containerised PostGIS system, improving data accessibility and workflow efficiency.
- Implemented OGC-compliant geospatial web services (WFS, Features API) through a Dockerised GeoServer, enabling standardised data exchange within IMPC operations.
- Collaborated closely with scientists and engineers to support real-time monitoring and forecasting of ionospheric conditions, contributing to space weather research and infrastructure protection.

SENIOR GIS ANALYST - TRIMBLE, INDIA

JAN 2019 – FEB 2023

- Led a nationwide U.S. retail logistics project, implementing geofencing and geocoding solutions that improved route efficiency and reduced delivery times by 50%.
- Deployed the COVID-19 Driver Information System, providing real-time store updates to 500+ drivers and ensuring safe logistics operations during the pandemic.
- Mentored a team of GIS analysts, maintaining data accuracy above 99% across nationwide spatial datasets.

GIS ENGINEER - TRIMBLE, INDIA

APR 2017 – DEC 2019

- Performed routine testing and analysis of truck routing data for U.S.–Mexico operations, incorporating road restrictions, bridge clearances, speed limits and HazMat routes to ensure regulatory compliance.
- Enhanced routing and navigation systems across 25,000+ miles of transportation networks, increasing reliability and reducing routing errors.

INTERN - GYOKAP SURVEYING TRAINING INSTITUTE, INDIA

DEC 2019

- Trained in UAV surveying, DGPS data collection, LiDAR-based 3D terrain modeling for topographic analysis.

INTERN - INSTITUTE OF REMOTE SENSING (IRS), INDIA

JUL 2014

- Conducted land-use and land-cover mapping using Total Station and DGPS for field survey integration with satellite imagery.

INTERN - INDIAN METEOROLOGICAL DEPARTMENT (IMD), INDIA

JUL 2014

- Monitored weather conditions using Doppler radar and rain gauge data to support short-term rainfall forecasting.

EDUCATION

MASTER OF ENGINEERING IN GEOMATICS

MAR 2023 – PRESENT

Hochschule Neubrandenburg, University of Applied Sciences, Germany

BACHELOR OF ENGINEERING IN GEO-INFORMATICS

2011 – 2015

Regional Centre of Anna University, Tirunelveli, India

TECHNICAL SKILLS

Programming	Python, PostgreSQL/PostGIS, JavaScript, HTML, CSS, Git
GIS & Remote Sensing Tools	QGIS, ArcGIS Pro, SNAP, Agisoft, Google Earth Engine, GeoServer

ADDITIONAL INFORMATION

Languages English (C1), German (A2), Tamil (Native)

Soft Skills Problem-solving, Team collaboration, Research communication

CONFERENCES

INTERGEO (2023), MESSE BERLIN, GERMANY

Attended a leading international conference on geodesy, GIS, UAV mapping, and 3D modeling technologies for smart cities and digital twins.

REFERENCES

Prof. Dr. Frank Günther	Professor, Photogrammetrie, Fernerkundung, GIS, Kartographie Hochschule Neubrandenburg, University of Applied Sciences Email: guenther@hs-nb.de
Martin Kriegel, M.Eng.	Group Leader, Pre-operational Services German Aerospace Center (DLR), Neustrelitz Email: Martin.Kriegel@dlr.de