


# Prathamesh Barane

Principal Geospatial Platform Engineer | GeoAI Systems | Spatial Data Infrastructure

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🌐 <https://static.beservices.in/prathamesh>

## Profiles

 [LinkedIn](#)  
[prathameshbarane](#)

 [GitHub](#)  
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## Summary

Geospatial platform engineer with 16+ years of architecting and delivering production-scale Geospatial systems. Led the design and implementation of an end-to-end four-phase geospatial platform for land administration and infrastructure workflows—spanning CAD-to-GIS transformation, multilingual spatial ETL and reconciliation, GeoDjango/PostGIS APIs, vector tile pipelines, web GIS analytics, and AI-driven segmentation integration. Focused on scalability, automation, and developer productivity, with proven impact on data quality, turnaround time, and system reliability.

## Skills

### ☆ Geospatial Platform and GIS

Geospatial Platform Architecture, Spatial ETL, GeoDjango, PostGIS, Redis, Celery, React.js, Martin Vector Tiles, MapLibre, ArcGIS, QGIS, Civil3D

### ☆ Programming and Data

Python, SQL, C#, AutoCAD .NET API, VBA

### ☆ AI and CV

Convolutional Neural Networks, Machine Learning, Deep Learning

### ☆ DevOps

Docker, Kubernetes, GitHub Actions

## Experience

### BE Services

2023 - Present

Lead Geospatial Data Consultant

Designed and implemented a four-phase geospatial platform for land administration and infrastructure workflows.

- Built CAD-to-GIS transformation and reconciliation pipelines using C#/.NET, AutoCAD/Civil3D APIs, and governed spatial QA controls.
- Implemented production analytics stack with GeoDjango/PostGIS APIs, Redis/Celery precompute caching, Martin vector tiles, and MapLibre interactions.
- Integrated CNN-based tree and building segmentation outputs into operational PostGIS, API, and tile workflows.

### Dar

2021 - 2023

Geospatial Data Consultant

Delivered geospatial consulting for public-sector land and infrastructure programs in Saudi Arabia.

- Standardized GIS automation workflows to improve repeatability, speed, and data quality.
- Supported ArcGIS implementation and geospatial preparation pipelines for decision-focused analytics.

### Dar

2017 - 2021

GIS Analyst

- Managed GIS conversion, maintenance, and cartographic production across infrastructure programs.
- Performed remote sensing, hydrological, and spatial analysis and developed custom GIS tools for engineering use cases.

### National Institute of Technology Karnataka

2015 - 2017

Teaching Assistant

### BE Services

2009 - 2015

GIS Engineer

## Projects

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### Land Acquisition Analytics (LAA): End-to-End Geospatial AI Platform

Integrated four phases into one governed architecture from CAD transformation through AI-based segmentation.

- Unified CAD automation, multilingual reconciliation, production web GIS analytics, and operational map workflows.
- Conservative impact profile: manual reconciliation effort down 20-30%, analytics turnaround up 15-25%, data consistency and traceability up 20-30%, CAD-to-analytics handoff accelerated 1.5x-2.0x.

<https://laa.beservices.in>

### Workflow Automation for Gully Submission Process

Built and documented a tools library to standardize gully submission workflows.

- Improved process reliability through tutorial-driven implementation and repeatable execution patterns.
- Reduced manual effort by 60–80% and cut turnaround time by 80–95% (from ~2 person-months to ~1 person-week) while improving quality.

[https://www.youtube.com/playlist?list=PLIZhOI1RjUeR\\_-nJ\\_S\\_Eb\\_McVeY1OPBy](https://www.youtube.com/playlist?list=PLIZhOI1RjUeR_-nJ_S_Eb_McVeY1OPBy)

### H DAT (Highway Drainage Analysis Tool)

A comprehensive, single-platform engineering tool that streamlines highway drainage design by consolidating hydrologic analysis, hydraulic modeling for culverts/channels, and automated BOQ generation into one workflow.

<https://static.beservices.in/hdat/>

### Global Sales Intelligence Dashboard with Power BI, DAX, and SQL

Built a multi-source BI dashboard for geography-wise trend analysis and reporting speed improvements.

<https://www.youtube.com/watch?v=xEFbStRRh4w&feature=youtu.be>

### GIS-Based Solid Waste Disposal Site Selection Using AHP and MCE

Designed a site suitability workflow using Multi-Criteria Evaluation and AHP. Combined environmental and infrastructure criteria for weighted suitability zoning and parcel prioritization.

<https://static.beservices.in/SiteSelectionUsingAHP.pdf>

## Publications

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Drought risk assessment using AI over southern Maharashtra 2020

Earth Syst. Environ.

<https://doi.org/10.1007/s40808-020-00947-y>

ERA5 and IMERG precipitation evaluation for basin risk assessment 2022

Water Conservation and Management

<http://doi.org/10.26480/wcm.01.2022.61.69>

## Education

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Scaler Neovarsity Master of Science in Computer Science  
Computer Science 2023 - 2025

National Institute of Technology Karnataka Master of Technology in Remote Sensing and GIS  
Remote Sensing and GIS 2015 - 2017

RSCOE Pune Bachelor of Engineering in Civil Engineering  
Civil Engineering 2009 - 2012

## Certifications

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Certificate of Specialization in Data Science and Data Analytics 2025  
Scaler Neovarsity

## Awards

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Qualified GATE 2024 Data Science and Artificial Intelligence (DA) GATE 2024 Best Paper Award 2017  
International Conference on Global Civil Engineering Challenges