

# Arun Biju

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 [arunbiju.com](https://arunbiju.com)

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## Professional Summary

Detail-oriented GIS and Remote Sensing specialist with a background in civil engineering, spatial data analysis, automation, and full-stack development. Experienced with geospatial tools such as ArcGIS Suite, PostGIS, and open-source platforms like GeoServer and MapServer. Skilled in Python scripting, database integration, and BIM software including AutoCAD and MiTek Suite. Adept at designing cloud-centric workflows, automating data pipelines, and building spatial web applications. Passionate about solving real-world problems through geospatial intelligence and sustainable development solutions.

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## Education

### Graduate Certificate in Geographic Information Systems

Centre of Geographic Sciences (COGS), NSCC — 2024 – 2025 (*Expected*)

### Graduate Certificate in Remote Sensing

Centre of Geographic Sciences (COGS), NSCC — 2023 – 2024

### Bachelor of Technology in Civil Engineering

Kerala Technological University — 2016 – 2020

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## Technical Skills

- **GIS & Remote Sensing:** ArcGIS Pro, ArcGIS Online, ArcGIS Enterprise, QGIS, GeoServer, MapServer, Survey123, ArcGIS Field Maps
  - **Civil & Design Tools:** AutoCAD, MiTek Suite, Civil 3D, STAAD.Pro, BIM workflows, Microsoft Project
  - **Programming & Automation:** Python (ArcPy, geospatial libraries), SQL, R, Arcade, Django, basic HTML/CSS/JavaScript
  - **Spatial Analysis & Visualization:** PostGIS, Google Earth Engine, Oracle Autonomous Database (JSON + Spatial), Power BI, Dashboards
  - **Cloud & Databases:** PostgreSQL/PostGIS, SQL Server, Oracle Cloud Infrastructure, Linux & Windows systems
  - **Documentation & Writing:** Technical blogs, user manuals, project documentation
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## Projects

### AI-Powered Spatial Query Assistant (Capstone Project – GIS)

Developing a Retrieval-Augmented Generation (RAG) pipeline using Google Agent Development Kit and NVIDIA embedding models to interpret natural language queries into spatial SQL. Connected to a PostGIS geodatabase and GeoServer to dynamically serve spatial data via WMS/WFS.

### **Earth Engine Web App (Capstone Project – Remote Sensing)**

Built an interactive web tool using Solara and Google Earth Engine to visualize MOD17A3HGF vegetation productivity data for Nova Scotia, enabling spatiotemporal analysis and mapping.

### **Land Cover Classification and Vegetation Monitoring**

Applied remote sensing techniques using Sentinel-2 and Landsat imagery to perform supervised classification and NDVI-based vegetation health monitoring.

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### **Truss Designer**

*Frank Illsley Woodworking – Jan 2024 to Present*

- Designed and modeled wooden truss components for a variety of residential and commercial structural projects using MiTek software.
- Interpreted architectural and structural plans to develop accurate and code-compliant truss systems.
- Collaborated with engineers, architects, and production teams to ensure design feasibility, structural integrity, and alignment with construction timelines.

### **Geomatics Engineer**

*Dream Nest Homes – Aug 2022 to Sept 2023*

- Collected, processed, and analyzed spatial data to support civil engineering and land development projects.
- Generated detailed topographic and alignment reports including distance, curvature, and slope analysis for infrastructure planning.
- Utilized GIS tools to produce maps, site layouts, and planning documents for project approvals and decision-making.

### **Jr. Python Intern (Part-time)**

*Inmakes – Oct 2022 to Jan 2023*

- Developed backend automation scripts in Python to streamline repetitive tasks and data processing workflows.
  - Contributed to API integration and enhancement of internal web platforms, improving performance and usability.
  - Gained hands-on experience in backend development, data analytics, and service-oriented architecture in a team-based environment.
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### **Certifications**

- **Google IT Support Specialization**
  - **Python Django Practical Guide**
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### **References**

Available upon request.

