

A conceptual diagram illustrating the remote sensing process. At the top, a sun emits red arrows labeled 'Incident Solar Radiation' towards a landscape. The landscape includes 'Buildings', 'Road', 'Grass', 'Water', and 'Forest'. Blue arrows labeled 'Reflected Solar Radiation' point from these features towards a satellite in the 'ATMOSPHERE'. The satellite sends 'DATA' to a 'Server' on the right. The background features a grid pattern and faint satellite icons.

GIS & Remote Sensing Track: Comprehensive Program Overview

Mastering Spatial Technologies for Urban Planning &
Environmental Monitoring

Agnes (Sapiens AI Assistant)

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Program Goals & Core Topics



Comprehensive Understanding
Of GIS & remote sensing technologies.



Fundamentals of GIS & Remote Sensing

Gain comprehensive insights into core geospatial technologies.

GIS Concepts

Remote Sensing

Data Acquisition



Develop Practical Skills
In GIS software & imagery interpretation.

ArcGIS Pro

Google Earth Engine

Python



Spatial Data Analysis

Master techniques for processing, interpreting, and visualizing spatial data.

Geospatial Computation

Modeling

Interpretation



Apply Technologies
In urban planning & environmental monitoring.



Real-World Applications

Apply learned skills to solve challenges in diverse professional fields.

Urban Planning

Environmental

Agriculture

Disaster Management



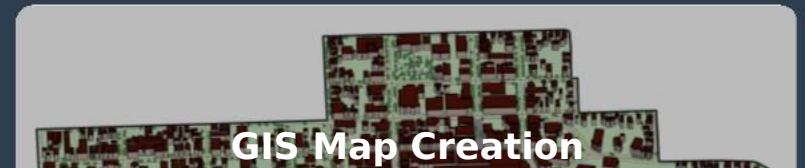
Culminate in Real-World Project
Creating a comprehensive GIS map.



Urban Planning



Environmental Monitoring



GIS Map Creation

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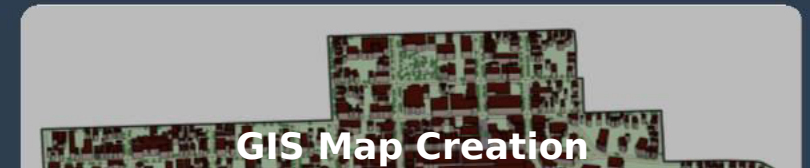
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Urban Planning



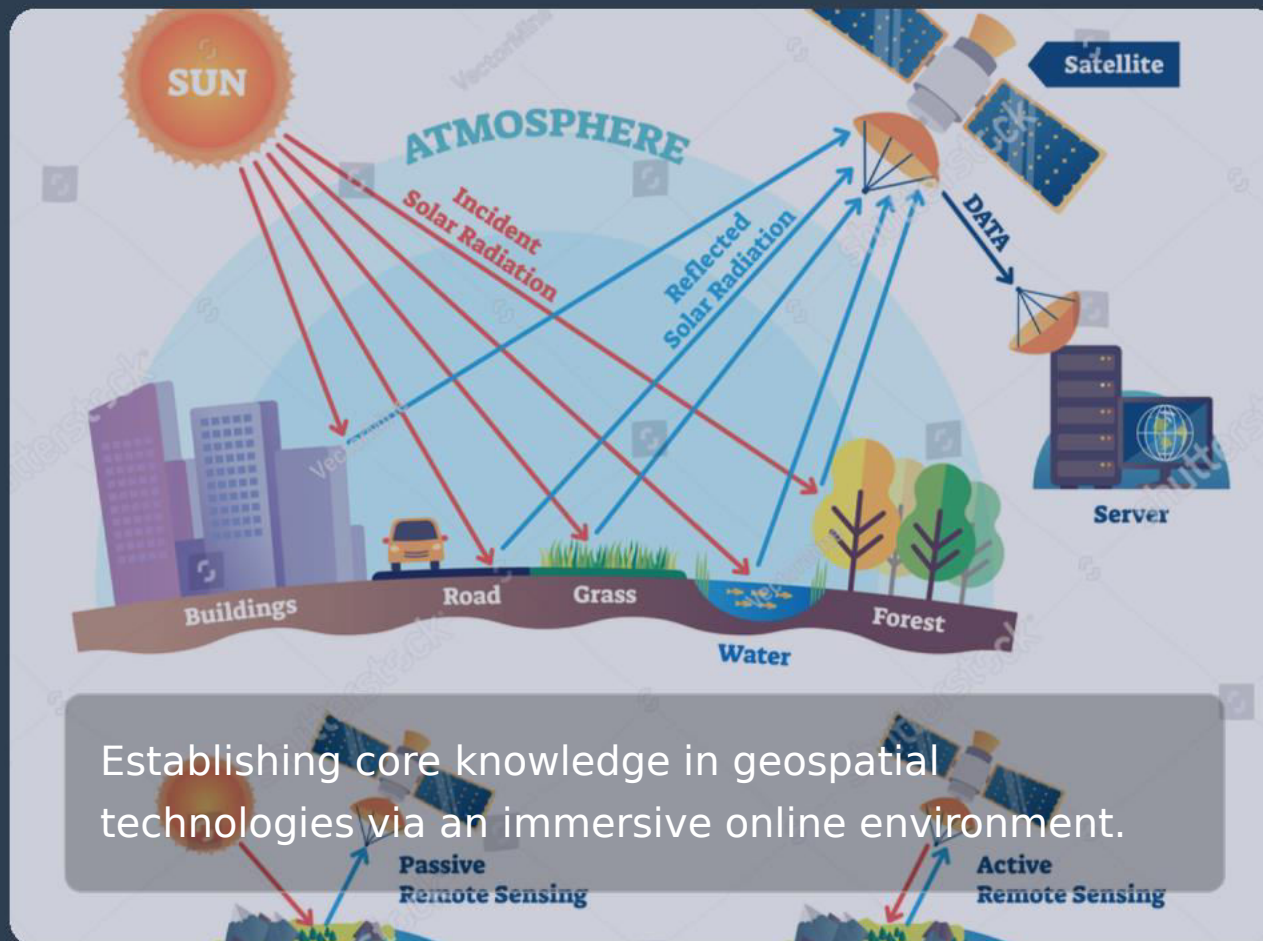
Environmental Monitoring



GIS Map Creation

Phase 1: Foundational & Core Concepts

(Months 1-2 Online)



Theoretical Foundation

Online modules for robust theoretical understanding.



Core GIS Concepts

Spatial data types, acquisition, and management.



Remote Sensing Basics

Fundamentals of technology and image processing.



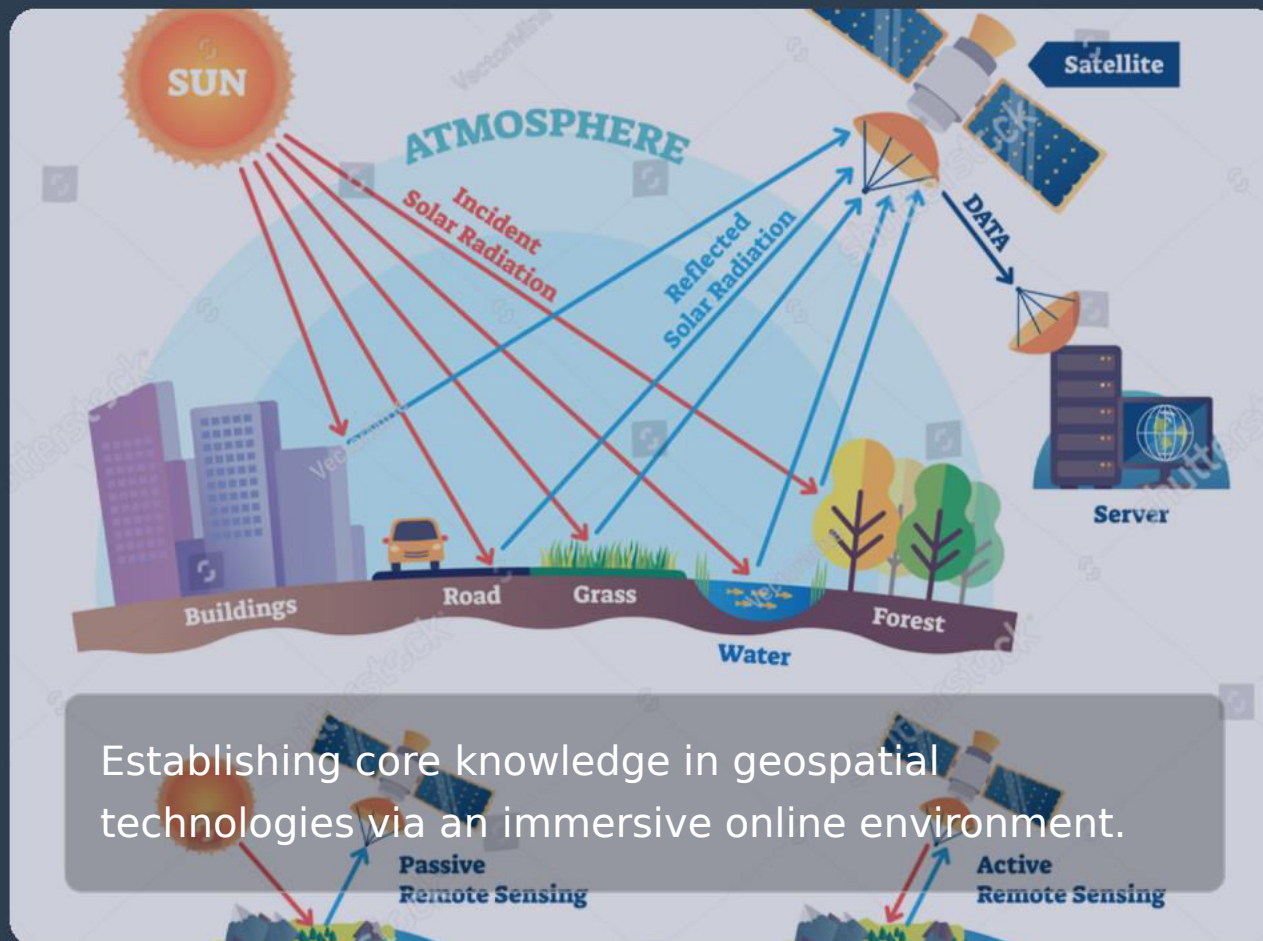
Practical Application

Hands-on experience with open-source QGIS.

Phase 1: Foundational Focus Areas

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Month 1: GIS Fundamentals & Spatial Data Analysis



Week 1

Introduction to GIS & QGIS

Explore Data Models, Coordinate Systems, and get hands-on with QGIS.



Week 2

Spatial Data Acquisition

Learn data management, formats, and acquisition from various sources.



Week 3

Geoprocessing Operations

Master critical analysis tools like buffer, clip, intersect, and union.



Week 4



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Week 4



Month 2: Remote Sensing & Advanced Spatial Analytics



Week 5

Remote Sensing Technologies & Principles

- Sensors
- Spectrum Analysis
- Spatial & Temporal Resolutions



Week 6

Image Processing & Analysis

- Pre-processing Techniques
- Image Enhancement
- Data Transformations



Week 7

Advanced Spatial Data Analysis

- Raster Operations
- Digital Elevation Models (DEMs)
- Geostatistical Interpolation

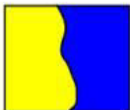


Week 8

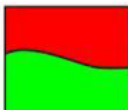
GIS Applications

- Urban Planning
- Environmental Monitoring
- Civil Engineering

a)



ID	Tipo Suelo
1	Cambisol
2	Luvisol



ID	Uso Suelo
1	Pastizal
2	Matorral

Program Highlights



12 Credits

Core Technologies Utilized

- ✓ ArcGIS Suite (Pro, Online, Image)
- ✓ Amazon Web Services

Month 2: Remote Sensing & Advanced Spatial Analytics



Week 5

Remote Sensing Technologies & Principles

- Sensors
- Spectrum Analysis
- Spatial & Temporal Resolutions



Week 6

Image Processing & Analysis

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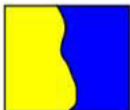


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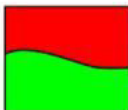
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Phase 2: Industry Immersion & Integrated Project

● INDEX

Month 3 Offline

Core Immersion Activities



● Intensive Offline Phase

Applying all learned concepts in a focused, hands-on environment.



● Advanced Spatial Analysis

Conducting in-depth spatial analysis for real-world scenarios.



● Professional Reporting

Refining cartographic output and presenting comprehensive findings.



Enablers for Project Success



Direct Mentorship

Receive personalized guidance from industry-leading experts.



Software Access

Full, unrestricted access to essential GIS software platforms.

● QGIS

● ArcGIS Pro

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Month 3: Capstone Mini Project & Showcase

Week 9

 Project Kick-off

 Planning & Data Integration



Week 10

 Advanced Spatial Analysis

 Geospatial Modeling



Week 11

 Adv. Cartography & Visualization

 Professional Reporting



Week 12

 Final Project Presentation

 Career Launchpad



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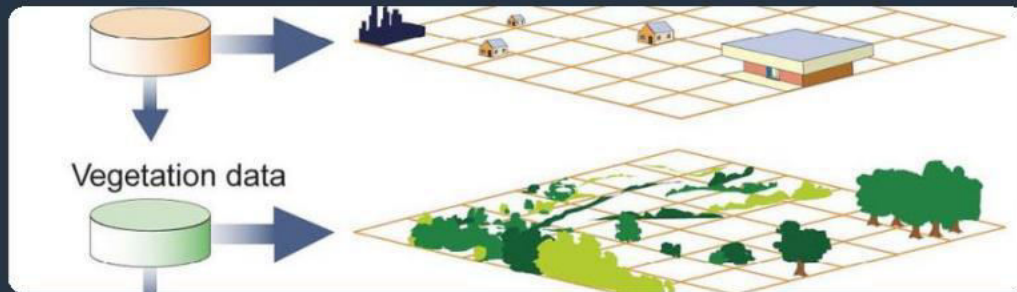


Project Showcase & Career Launchpad



Live Project Presentation

Demonstrate map features, spatial analysis, and actionable insights from your capstone project.



- Interactive Demos
- Geospatial Deep Dive



Career Ready Workshops

- ✓ Resume & Portfolio Crafting
- ✓ LinkedIn Profile Optimization
- ✓ Effective Networking Strategies

● Professional Edge



Tailored Mock Interviews

Simulate technical and behavioral interviews for GIS roles, with personalized, actionable feedback.



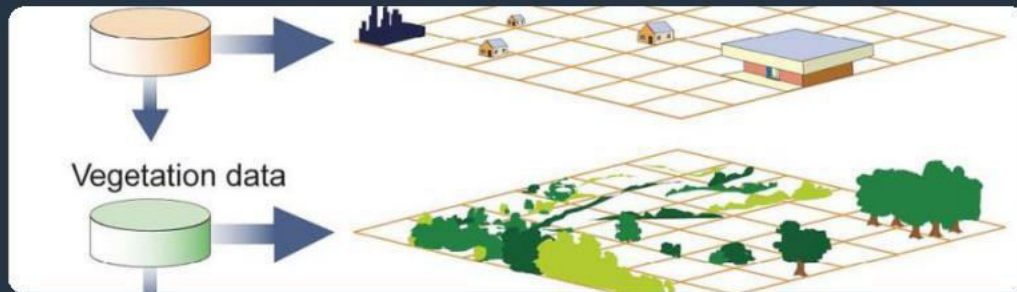
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