Training Course Outline

Training the GIS Professional

Spatial Data Science: Advance Your Analytics - 2 days

Overview

Discover hidden patterns, predict with confidence.

Take your analytics projects to the next level by incorporating the power of location and place-based context. This course introduces spatial statistical techniques and methods used to uncover patterns and relationships in data, unlocking insights that help organisations solve complex problems. You'll explore a variety of scenarios and build skills with powerful ArcGIS tools used by analysts, researchers, and data scientists around the world.

Who should attend

- GIS professionals
- GIS Analysts
- Data Scientists

Goals

- Apply data engineering tools to prepare spatial data for analysis and statistical modeling, ensuring project results are built on a reliable and documented foundation.
- Gain experience with exploratory spatial statistical methods and space-time analysis techniques to detect trends, clusters, hot spots, and anomalies.
- Create and assess prediction models using geostatistical techniques and regression analysis.

Topics Covered

- Building a foundation for spatial data science: Spatial analytics and data science; Confidence in conducting spatial data science; Spatial analytics and data science case studies; types of spatial statistics; Interpreting inferential statistics; Geospatial AI.
- Data engineering: Data Engineering view in ArcGIS Pro; evaluating data for data preparation; creating charts in the Data Engineering view; Interpreting data using charts.
- Clustering: Heat map versus hot spots; clusters and outliers; descriptive versus inferential statistics; Analysing spatial patterns.
- Space-time analysis: Incorporating time into your analysis; space-time analysis; emerging hot spot analysis; conducting a space-time analysis.
- Regression analysis: What is regression? Regression equation; analysis using linear regression; exploratory regression.

Topics Covered Continued

- Multiscale geographically weighted regression: How Relationships change over space; multiscale geographically weighted regression characteristics; when to use MGWR; MGWR in action.
- Presence-only prediction: What is presence-only prediction? Presence-only prediction workflow; accuracy of data inputs for prediction; Interpreting presence-only prediction output
- Geostatistical interpolation: What is interpolation? Differentiate between regression and interpolation; geostatistical interpolation; geostatistical interpolation workflow; examine the Geostatistical Analyst Interpolation toolset; approaches to geostatistical interpolation; the geostatistical wizard.

Prerequisites

Completion of Spatial Analysis Essentials for ArcGIS or equivalent knowledge.

Contact Us

For GIS training enquiries and bookings visit esriuk.com/learning, email us at learning@esriuk.com or call us on 01296 745504

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