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ArcGIS API For Python

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The ArcGIS API for Python

A powerful Python library for mapping, spatial analysis, data science, geospatial AI and automation

It helps to perform -

- GIS visualization and analysis,
- Spatial data management and
- GIS system administration tasks

that can run both interactively and using scripts.

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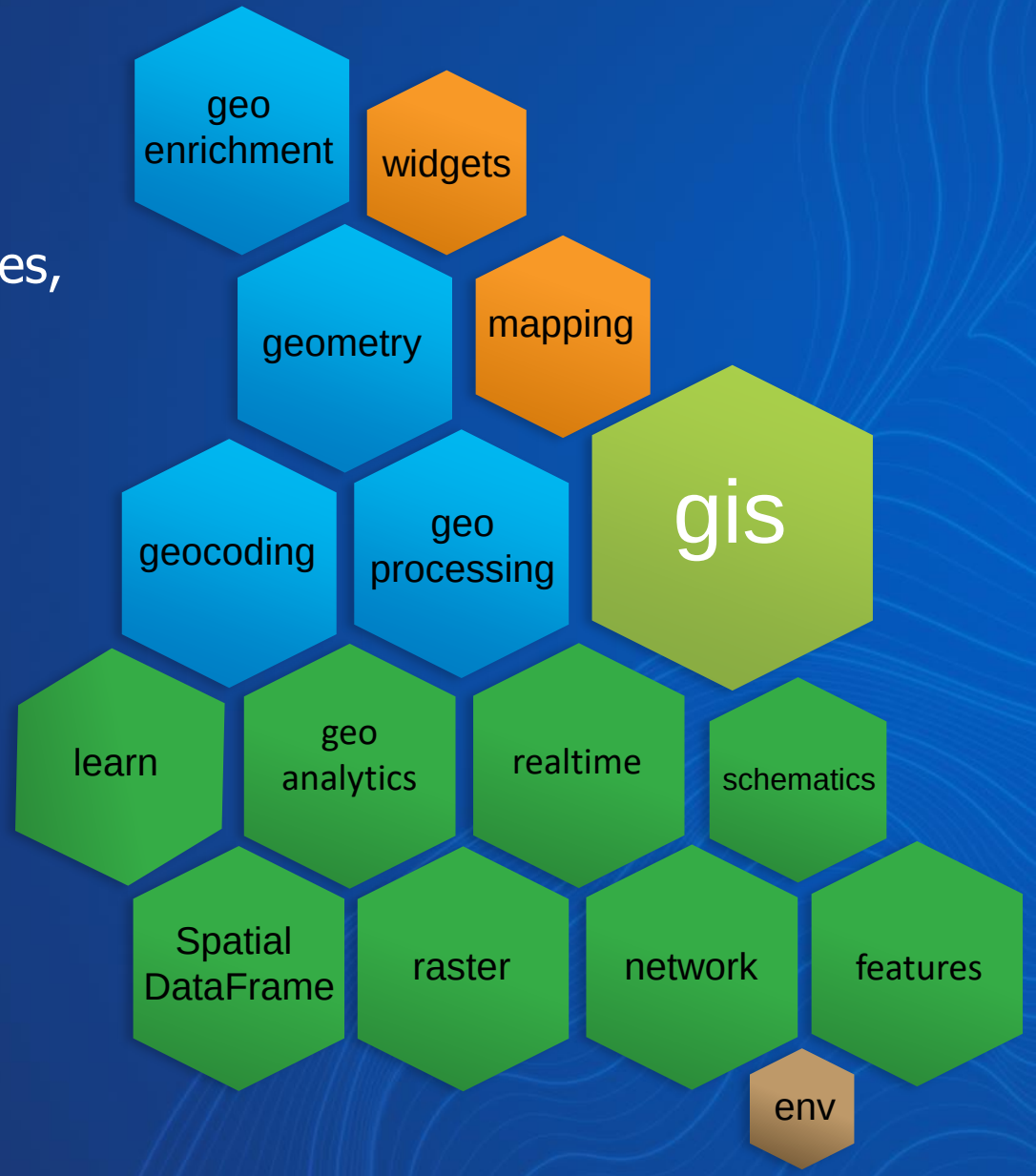
ArcGIS API Overview

This library enables access to ready-to-use maps and geographic data from Esri and other authoritative sources,

- Data operations
  - Load / store
  - visualize
- Get info about organization
- Machine learning

It integrates well with the scientific Python ecosystem and includes rich support for Pandas and Jupyter notebook.



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About pretrained models

- To automate digitizing and extracting geographical features from imagery and point cloud datasets.
- Saving time as manual extraction of raw data is time consuming.

ArcGIS pretrained models, have been trained on data from a variety of geographies.

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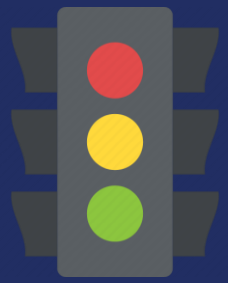
Use of car detection



Traffic management and analysis

Parking lot utilization

Urban planning

Deriving economic indicators and estimating retail sales

Car Detection-USA model is used to detect cars, in high-resolution drone or aerial imagery.

High-resolution aerial and drone imagery can be used for car detection due to its high spatiotemporal coverage

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Conclusion

•For higher confidence, training the models on local data is recommend

•With just some labeled data and with little to no human involvement by using deep learning, custom analysis can be performed

- ArcGIS API for Python-
  - Helps to work with deep learning and improves the result
  - Decreases repetitive human work and saves time

Car detection demo consumed 1 credit only with one parking lot and very small image.
It is a bit dependent on the used image's pixel size.

Change Detection of Buildings from Satellite Imagery | ArcGIS Developer