Introduction to the ArcGIS API for Python

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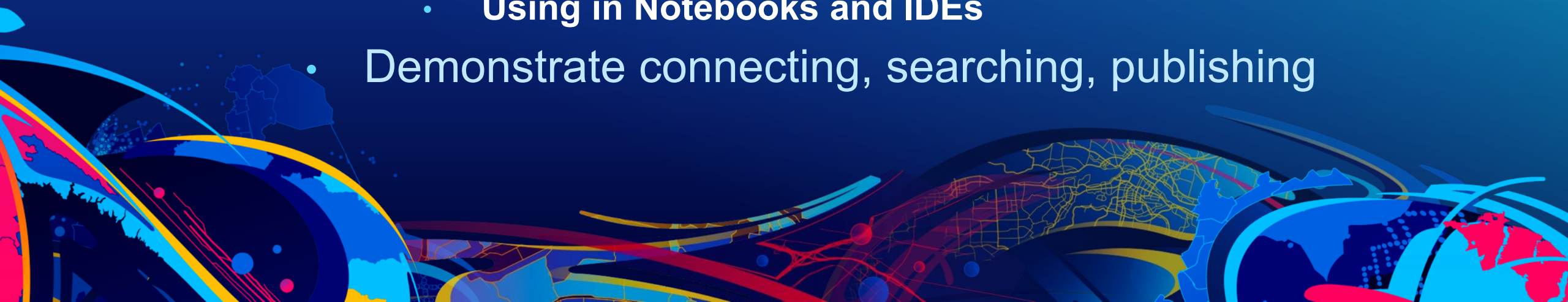
DEVELOPER SUMMIT

Target Audience

- Experience with
  - organizations deployed to ArcGIS Online and/or ArcGIS Enterprise
  - Python
- Interested in learning what the API for Python can do

Agenda – Part I

- Define the ArcGIS API for Python
  - **what it is**
  - **who it is for**
  - **description of modules**
- Access the ArcGIS API for Python
  - **ArcGIS Pro community**
  - **Anaconda Distribution community**
  - **Using in Notebooks and IDEs**
- Demonstrate connecting, searching, publishing



ArcGIS API for Python

- What is it?

  - Python library for spatial analysis, mapping and GIS
  - Powerful, modern and easy to use
  - Powered by Web GIS, with local capabilities

Made for AUTOMATION and DATA SCIENCE

ArcGIS API for Python and ArcPy

ArcGIS API for Python

- Script against an organization:
  - Online or Enterprise
- Use with services:
  - Analysis, Portal Admin, Content Creation, Big Data Analysis

ArcPy

- ArcGIS Desktop
  - ArcMap – Python 2.x
  - ArcGIS Pro – 3.x
- Local data
  - Mostly geoprocessing
  - Map automation

ArcGIS API for Python

What can it do for you?

Platform API

Power Users
Developers

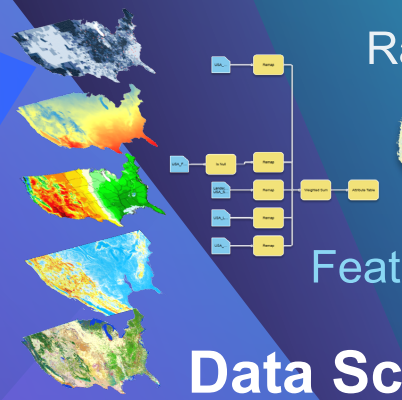
Spatial Analysis

Imagery

Location Analytics

Analysts

Big Data



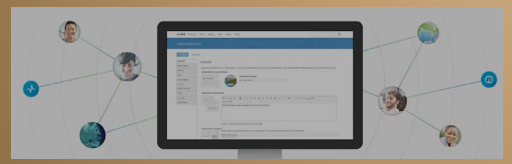
Raster Analytics

Feature Analytics

Data Scientists

Integration

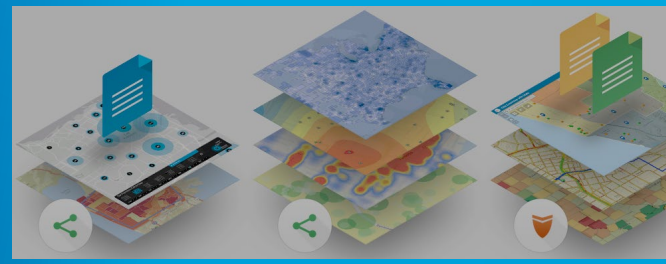
Users, Roles & Group management



Administrators
DevOps

Your Web GIS

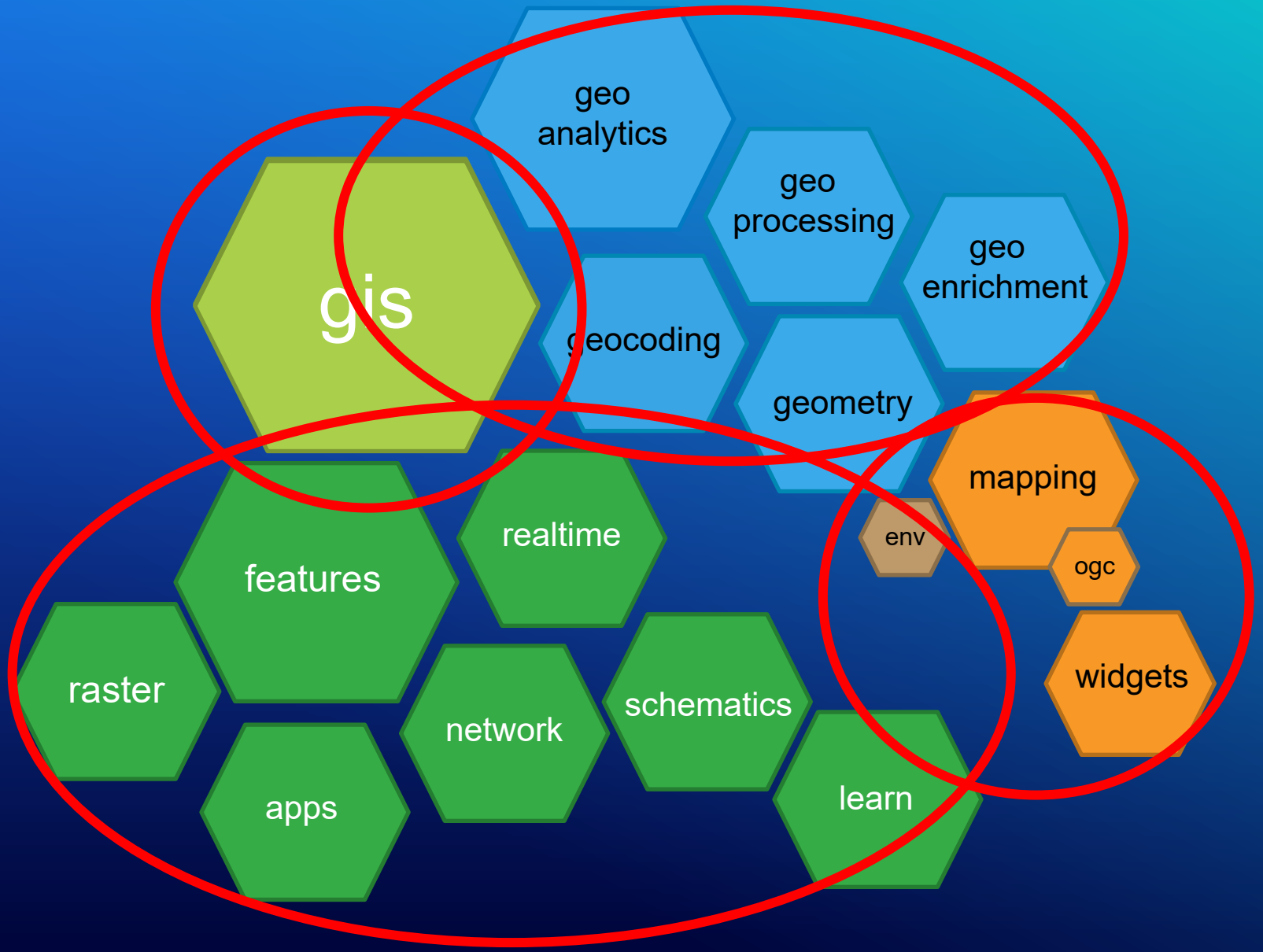
Content Publishers



Data Management

A Pythonic representation of GIS

API Overview



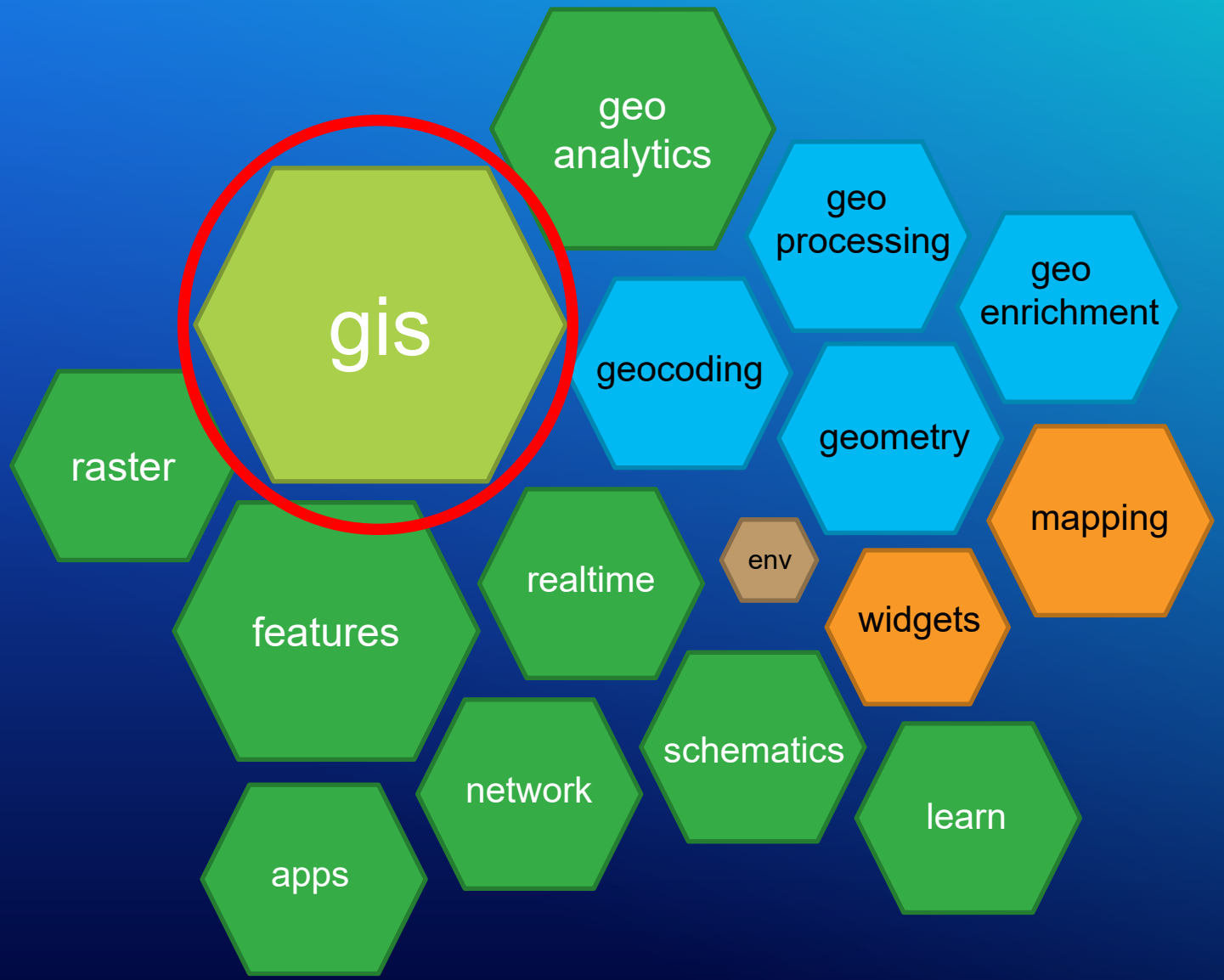
Getting the API

Multiple avenues to experience the API

- **Install and set up Guide:** https://developers.arcgis.com/python/guide/install-and-set-up/

Focus: Distribution as a ***conda*** package named ***arcgis***

- ArcGIS Pro community
- Python Geospatial and scientific community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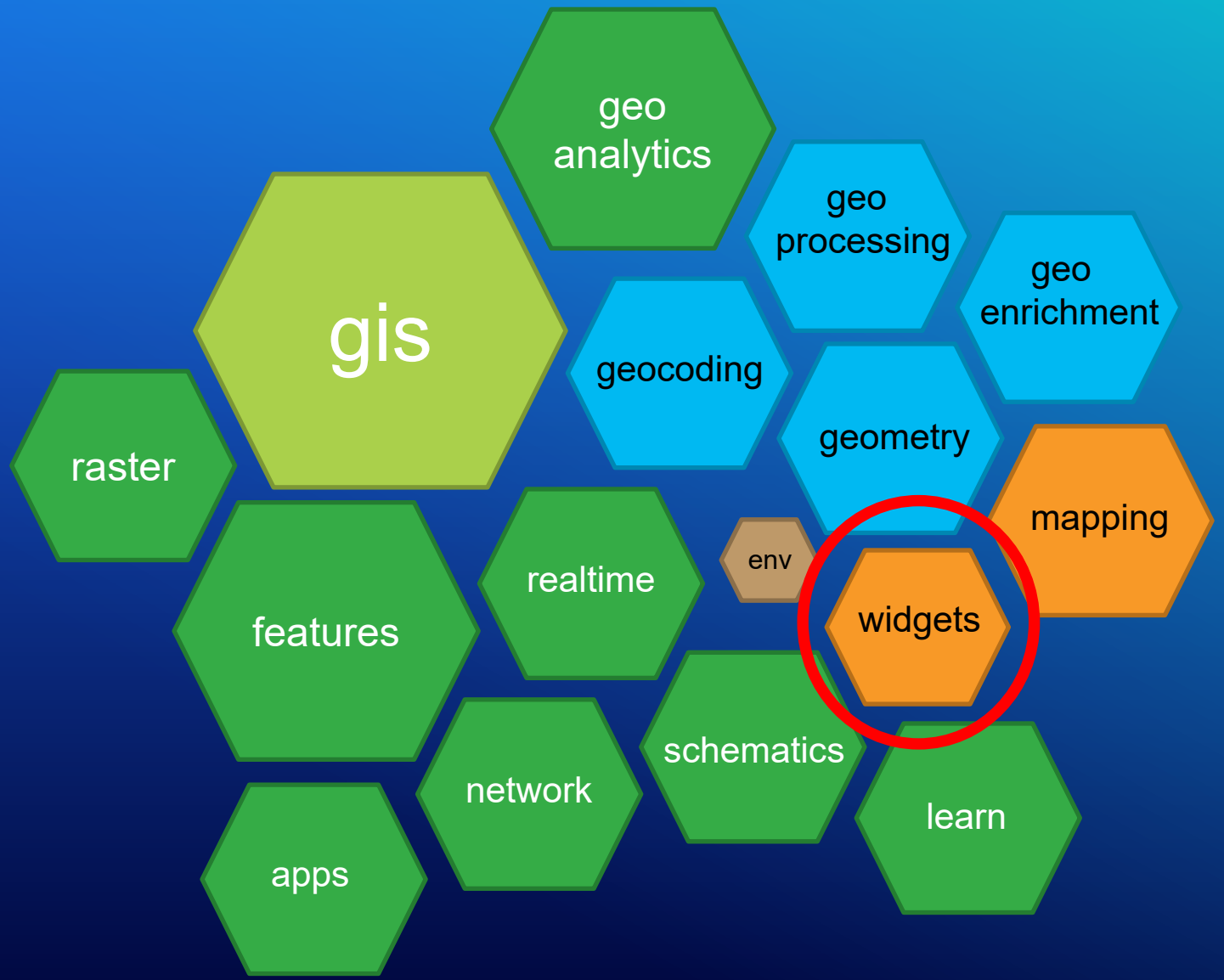
Using the GIS

- The GIS class provides access to the organization: system, users, content
- Supports multiple logins methods
- Leverages ArcGIS Pro Authentication
  - Used for security
- Support profiles
  - Credentials do not get stored in scripts!

```
In [1]: from arcgis.gis import GIS
```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The Map Widget

```
map1 = gis.map("Palm Springs, CA")
```

```
map1
```

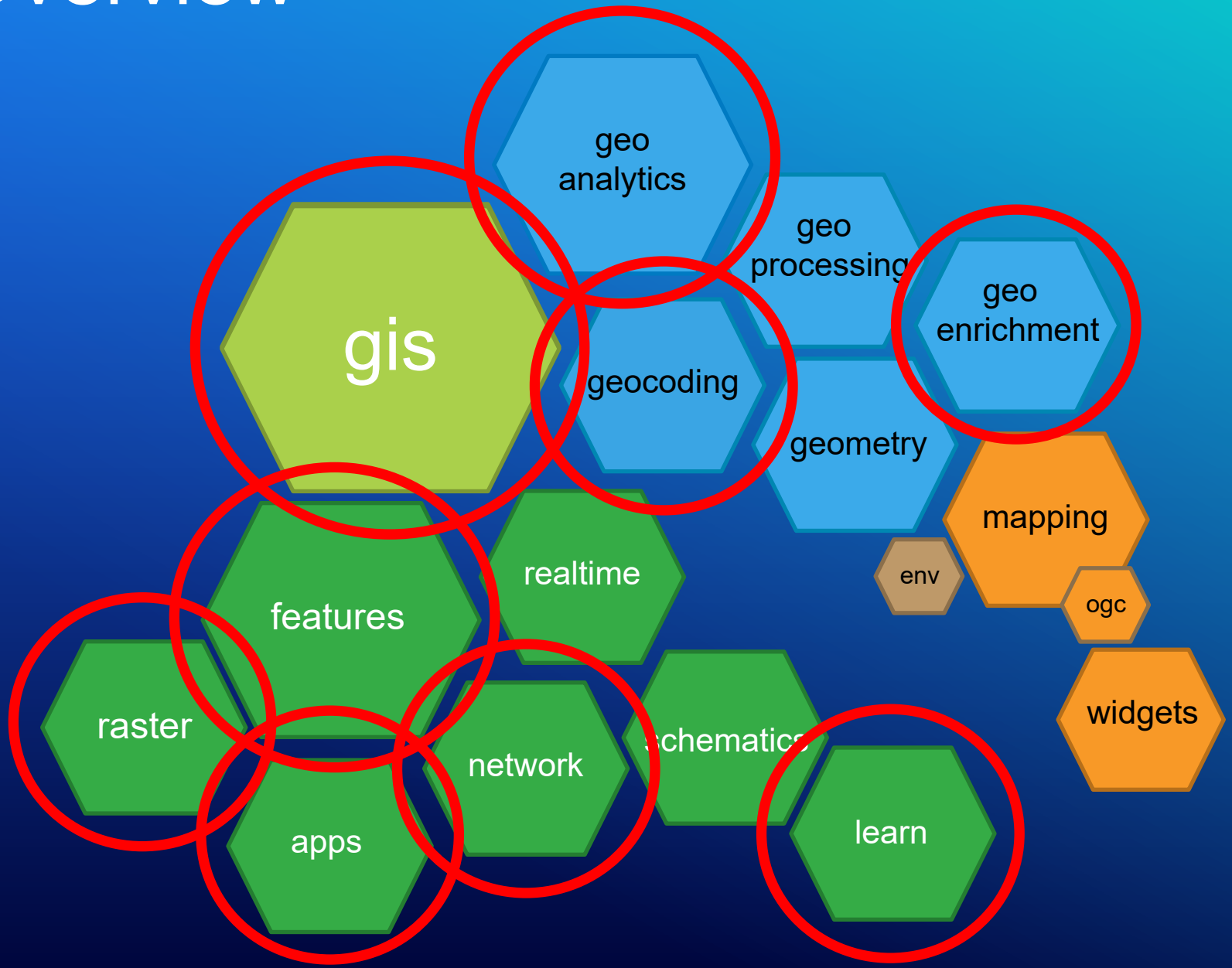
- visualization within Notebooks

Demo:
Accessing and Using the API

ArcGIS Pro and Anaconda

- Notebooks
- IDE

Agenda – Part 2

- Review of the different modules of the API
- Example use cases for the different modules of the API
  - **Data engineering using ArcGIS Pro Notebooks**
  - **Site selection analysis using ArcGIS Online Notebooks**
- Documentation website and resources for further learning

API Overview