



GEE遥感训练营出品



Google Earth Engine教学

Supervised classification

Day 4

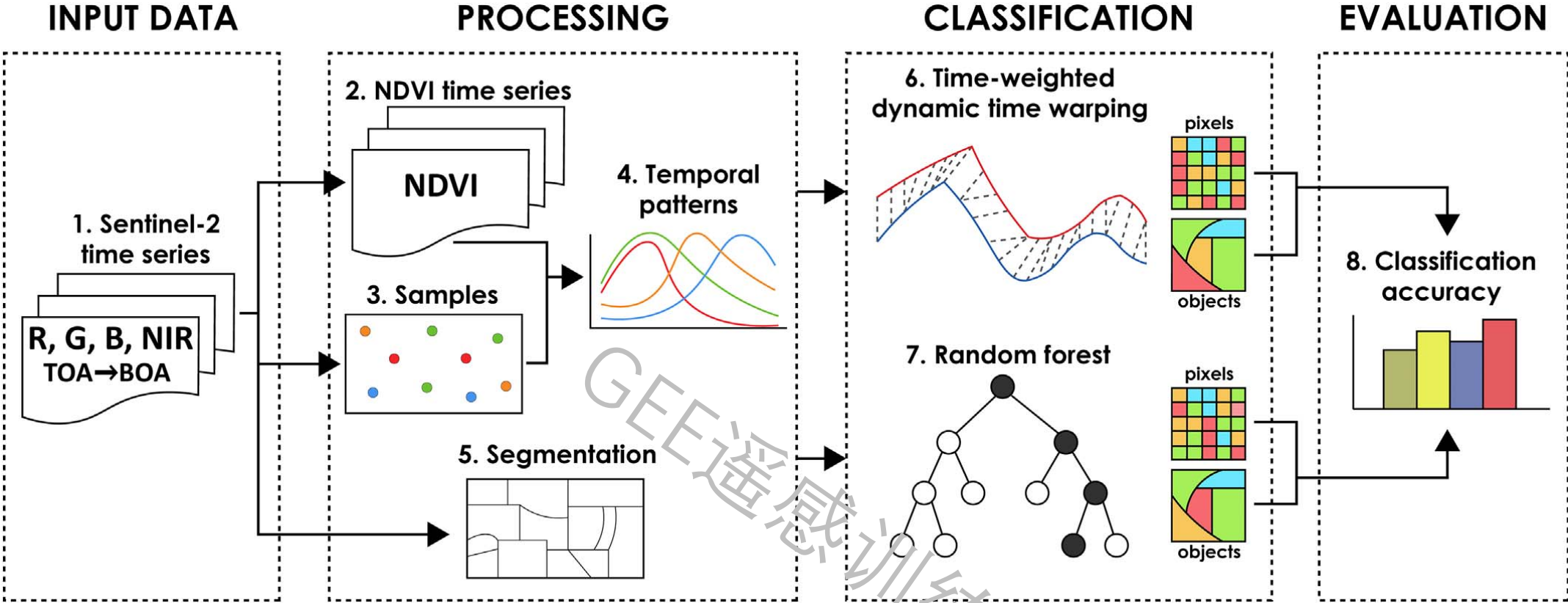
基本内容

✓ 监督分类的基本概念

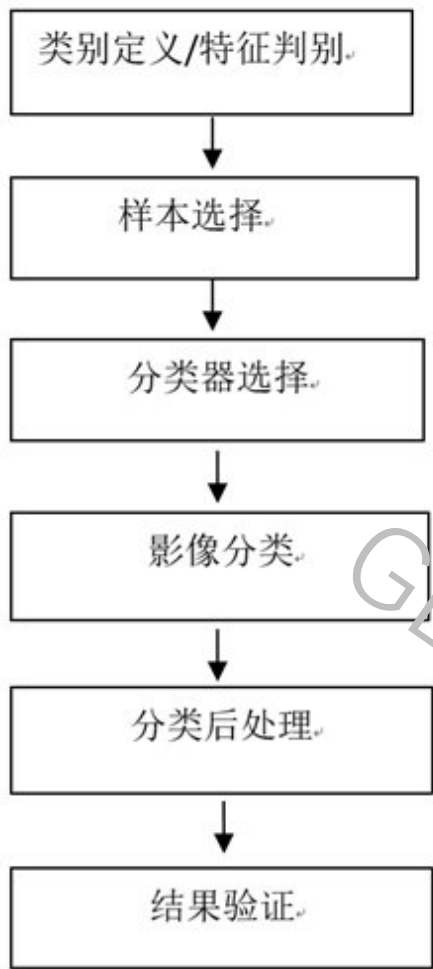
✓ 监督分类整体流程和代码讲解

✓ 监督分类的精度评价等

监督分类的基本流程



监督分类的对应概念



- 最大似然
- 最小距离
- 马氏距离
- 神经网络
- 支持向量机
- 其他

● 样本点

● GEE类别

```
ee.Geometry.Point(lng, lat)
```

● 特征

● GEE类别

```
Image/Bands
```

● 分类特征输入

Feature Index	Original Name (Integer)	SN (String)	ID (Integer)	System Index (Integer)
0	1	LSP0142	125	
1	1	LSP0143	126	
2	1	LSP0144	127	
3	1	LSP0145	128	
4	1	LSP0146	129	
5	1	LSP0147	130	
6	1	LSP0148	131	
7	1	LSP0149	132	
8	1	LSP0150	133	
9	1	LSP0151	134	

● GEE类别

```
Feature/FeatureCollection
```

Geometry

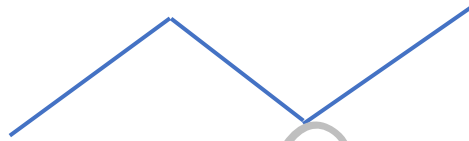
- Point

`ee.Geometry.Point(lng, lat)`



- LineString

e.g. `ee.Geometry.LineString(aLng, aLat, bLng, bLat, ...)`



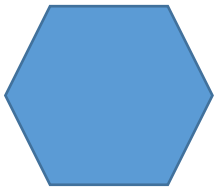
- Rectangle

`ee.Geometry.Rectangle(minLng, minLat, maxLng, maxLat)`



- Polygon

`ee.Geometry.Polygon(aLng, aLat, bLng, bLat, ..., aLng, aLat)`



- MultiPoint

`ee.Geometry.MultiPoint(aLng, aLat, bLng, bLat, ...)`



<https://code.earthengine.google.com/14ffcce8c2a5b6ee42001a78a43861e8>

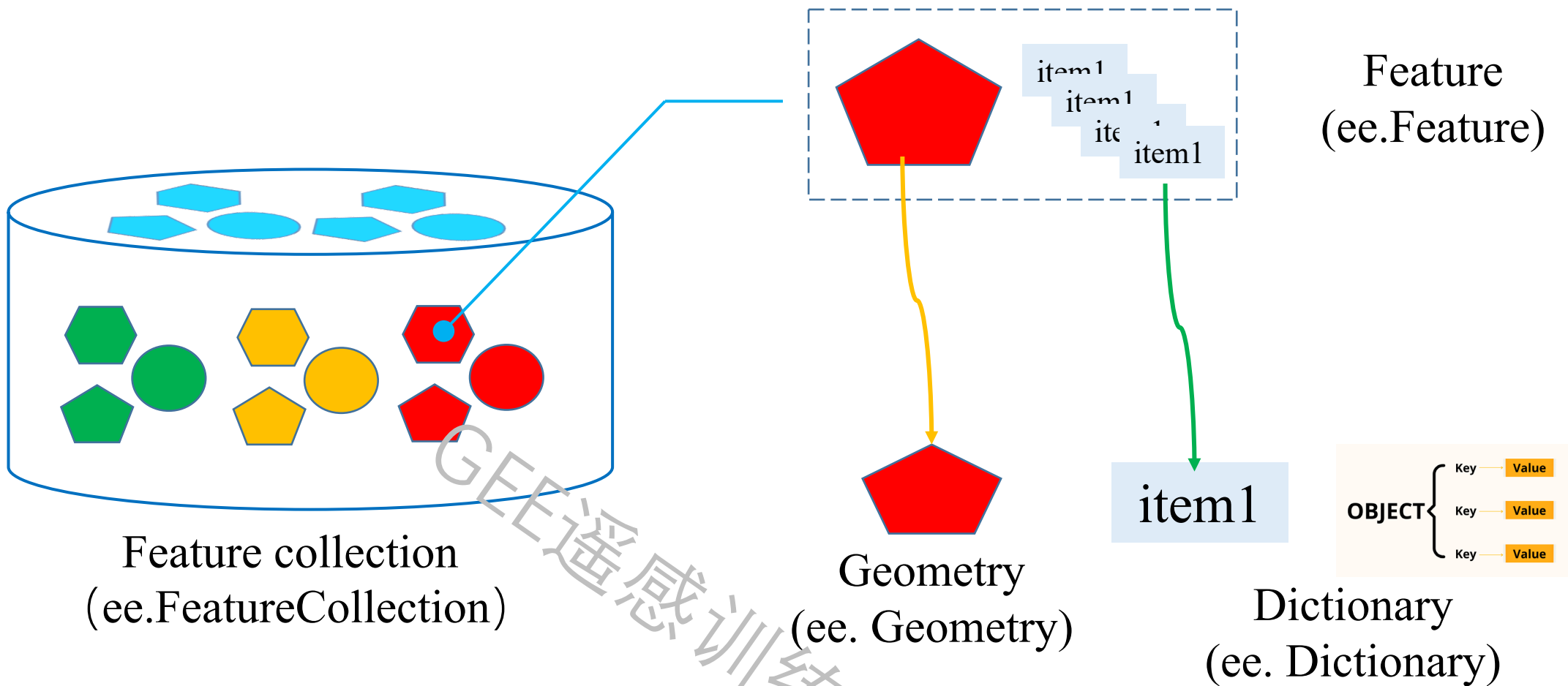
Feature

- To create a Feature, **provide the constructor with a Geometry** and (optionally) a dictionary of other properties. Specifically, a Feature is an object with a geometry property storing a **Geometry object (or null)** and a properties property storing a dictionary of other properties.

```
// Create an ee.Geometry.  
var polygon = ee.Geometry.Polygon(  
  [[[-115.151171875, 41.82430152168697],  
    [-115.151171875, 37.77479462232299],  
    [-108.2078125, 37.77479462232299],  
    [-108.2078125, 41.82430152168697]]]]);  
  
// Create a Feature from the Geometry.  
var polyFeature = ee.Feature(polygon, {name: "plg1", areas: polygon.area()});  
print(polyFeature);
```

<https://code.earthengine.google.com/47a326a465e1af4319589c40f25fedd5>

Geometry, Dictionary, Feature和FeatureCollection之间的关系



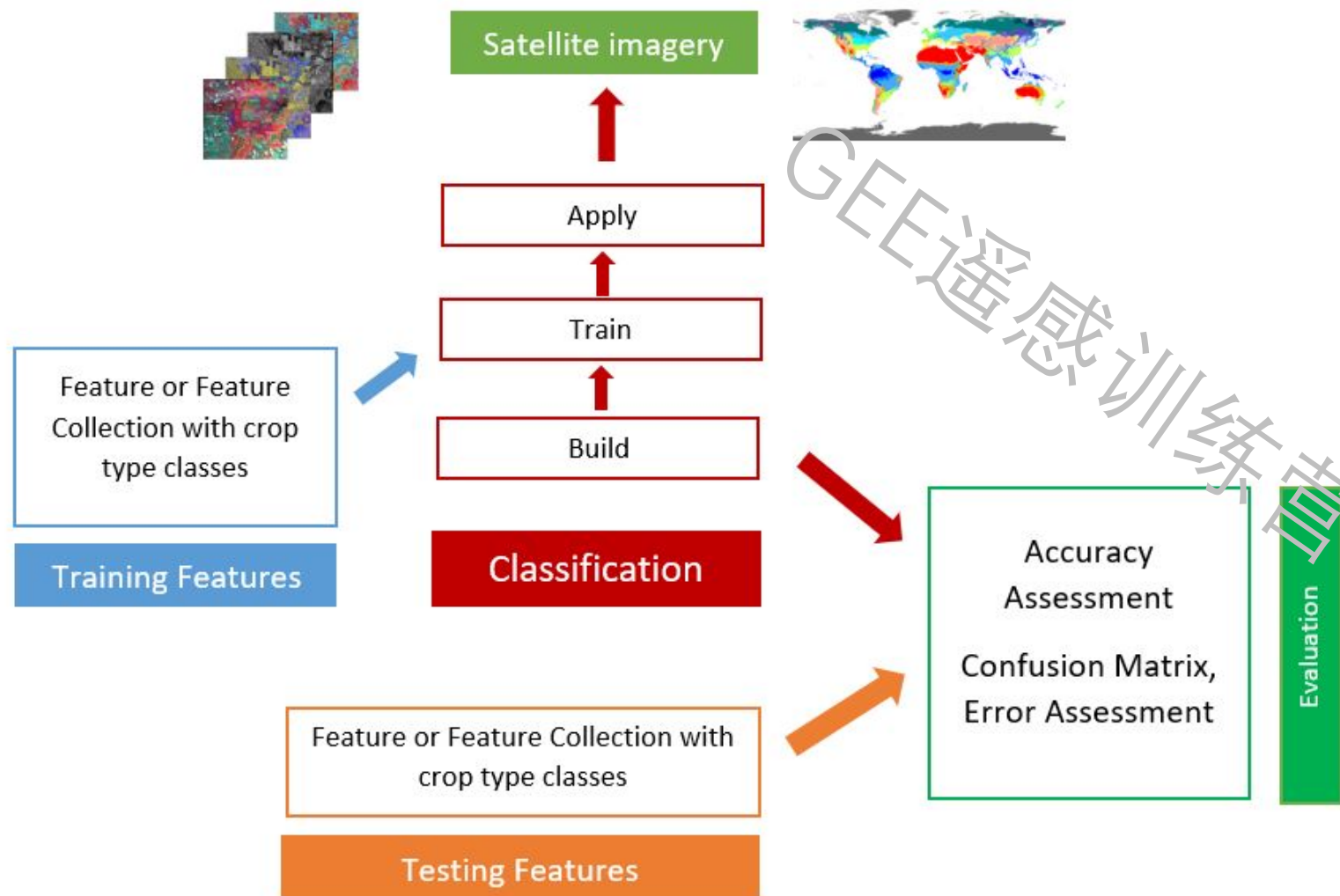
Image

```
// Load an image.  
var image =  
ee.Image('LANDSAT/LC08/C01/T1_TOA/LC08_044034_20140318');  
  
// Define the visualization parameters.  
var vizParams = {  
  bands: ['B5', 'B4', 'B3'],  
  min: 0,  
  max: 0.5,  
  gamma: [0.95, 1.1, 1]  
};  
  
// Center the map and display the image.  
Map.setCenter(-122.1899, 37.5010, 10); // San Francisco Bay  
Map.addLayer(image, vizParams, 'false color composite');
```



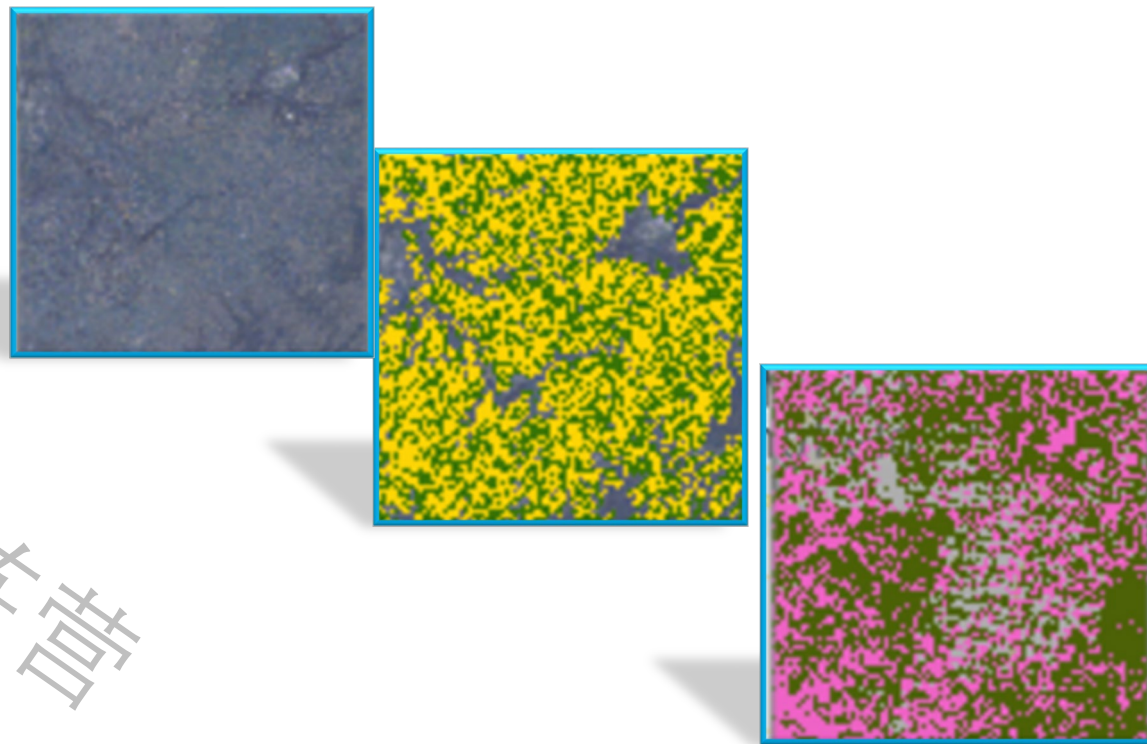
<https://code.earthengine.google.com/d4537cc7118476b60eb2cd2a022c2d70>

GEE监督分类自我测试



GEE上监督分类实战

- 收集样本
- 构建特征
- 筛选影像
- 实现作物分类
- 开展精度评价



<https://code.earthengine.google.com/ce26a9b4edf0bc3f38c8e588ba318055>



Thanks for your attention

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