Affinity Propagation na prática

	Ciclo	Ciclo 08: Outros algoritmos Clusterização
#	Aula	68
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Objetivo da Aula:

☐ Affinity Propagation

☐ Treinamento o algoritmo Affinity Propagation

☐ Próxima aula

Conteúdo:

▼ 1. Affinity Propagation

```python
from matplotlib import pyplot   as plt
from sklearn     import datasets as dt
from sklearn     import cluster  as c

# dataset
from matplotlib import pyplot   as plt
from sklearn     import datasets as dt
from sklearn     import cluster  as c

# dataset
X = np.array( [
    [3, 4, 3, 2, 1],
    [4, 3, 5, 1, 1],
    [3, 5, 3, 3, 3],
    [2, 1, 3, 3, 2],
    [1, 1, 3, 2, 3]
])

# training model
model = c.AffinityPropagation()
model.fit( X )

# clustering data
labels = model.predict( X )
```

```
print( labels )
```

▼
2. Treinamento o algoritmo Affinity Propagation

```
from matplotlib import pyplot   as plt
from sklearn     import datasets as dt
from sklearn     import cluster  as c

# dataset
X, _ = dt.make_blobs( n_samples=300, centers=4,
                      cluster_std=0.60,
                      random_state=0 )

# show dataset
plt.scatter(X[:,0], X[:,1], alpha=0.7, edgecolors='b')

# training model
model = c.AffinityPropagation( preference=-50)
model.fit( X )

# clustering data
labels = model.predict( X )

# show clusters
fig = plt.figure()
plt.title( 'Clustering' )
plt.scatter(X[:,0], X[:,1], c=labels, cmap='rainbow', alpha=0.7, edgecolors='b')
```

▼ ## 3. Próxima aula

Os parâmetros do Affinity Propagation