


```
1 import umap
2 from sklearn.datasets import fetch_openml
3 import matplotlib.pyplot as plt
4 import seaborn as sns
5
6 sns.set(context="paper", style="white")
7
8 mnist = fetch_openml("mnist_784", version=1)
9
10 reducer = umap.UMAP(random_state=42)
11 embedding = reducer.fit_transform(mnist.data)
12
13 fig, ax = plt.subplots(figsize=(12, 10))
14 color = mnist.target.astype(int)
15 plt.scatter(embedding[:, 0], embedding[:, 1], c=color, cmap="Spectral", s=0.1)
16 plt.setp(ax, xticks=[], yticks=[])
17 plt.title("MNIST data embedded into two dimensions by UMAP", fontsize=18)
18
19 plt.show()
```

 /usr/local/lib/python3.6/dist-packages/statsmodels/tools/\_testing.py:19: FutureWarning: pandas.util.testing is deprecated  
import pandas.util.testing as tm

MNIST data embedded into two dimensions by UMAP

