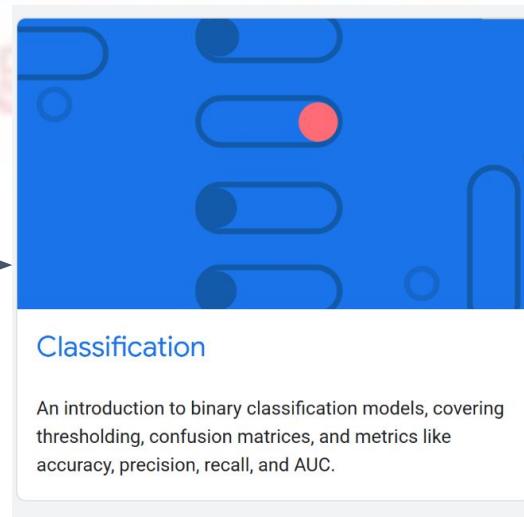


TECHCRUSH ARTIFICIAL INTELLIGENCE BOOTCAMP

Facilitator: Hammed Obasekore
September 22nd - 26th 2025

Recap



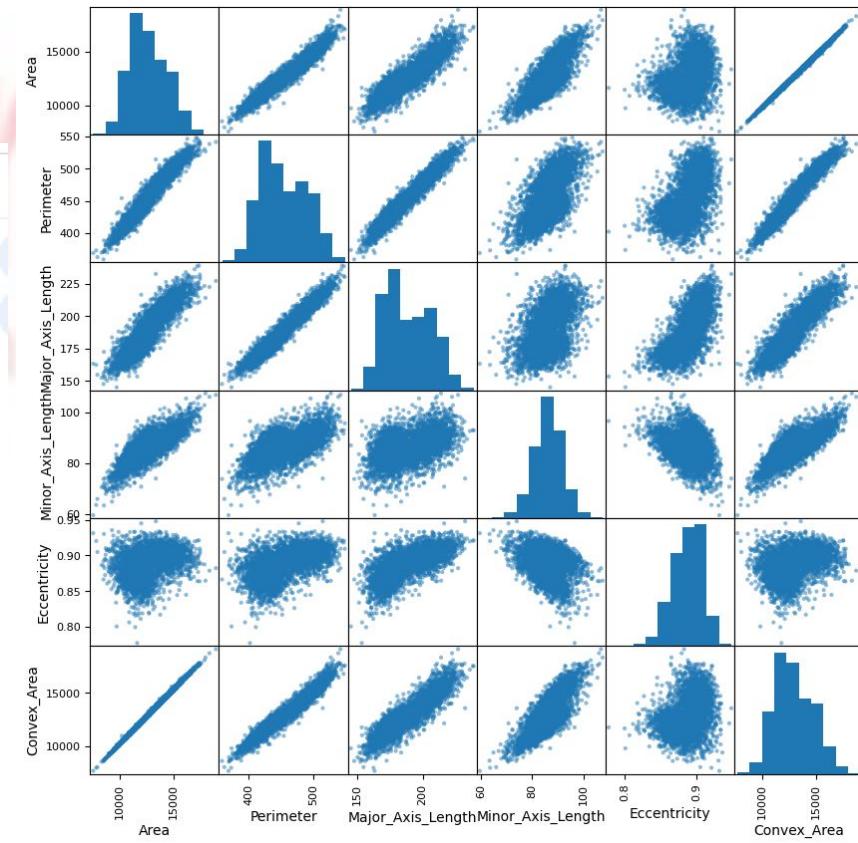
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Data: Feature Selection

When Only Correlation Does Not Tell The Story.

```
1 df.corr()
```

	Area	Perimeter	Major_Axis_Length	Minor_Axis_Length	Eccentricity	Convex_Area	Extent	Class
Area	1.000000	0.966453	0.903015	0.787840	0.352095	0.998939	-0.061184	-0.746400
Perimeter	0.966453	1.000000	0.971884	0.629828	0.544601	0.969937	-0.130923	-0.806572
Major_Axis_Length	0.903015	0.971884	1.000000	0.452092	0.710897	0.903381	-0.139562	-0.827824
Minor_Axis_Length	0.787840	0.629828	0.452092	1.000000	-0.291683	0.787318	0.063366	-0.370355
Eccentricity	0.352095	0.544601	0.710897	-0.291683	1.000000	0.352716	-0.198580	-0.588916
Convex_Area	0.998939	0.969937	0.903381	0.787318	0.352716	1.000000	-0.065826	-0.750424
Extent	-0.061184	-0.130923	-0.139562	0.063366	-0.198580	-0.065826	1.000000	0.117727
Class	-0.746400	-0.806572	-0.827824	-0.370355	-0.588916	-0.750424	0.117727	1.000000



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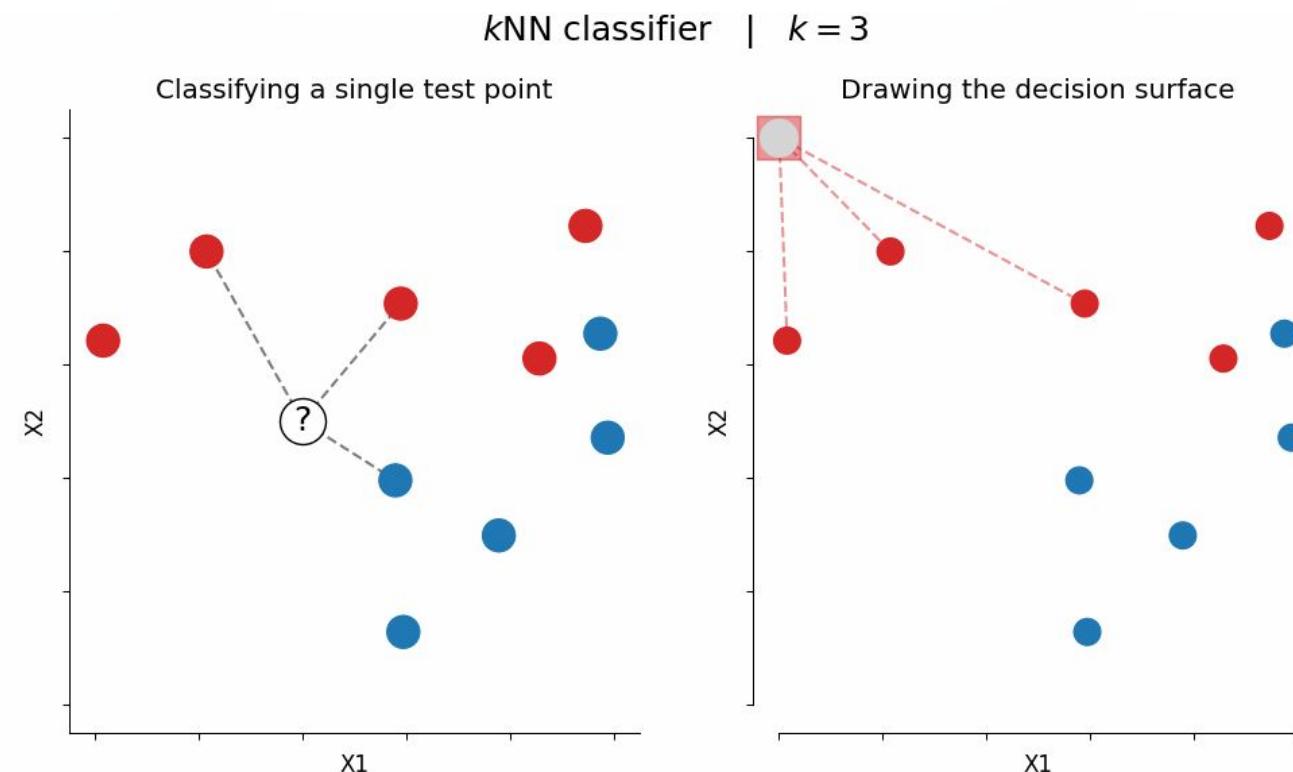
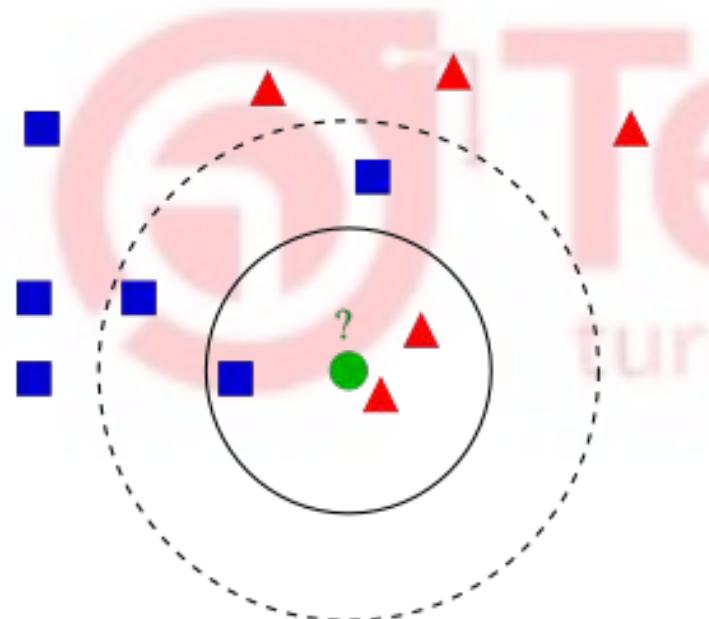
Data: Feature Selection



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Model: K-Nearest Neighbourhood (KNN)

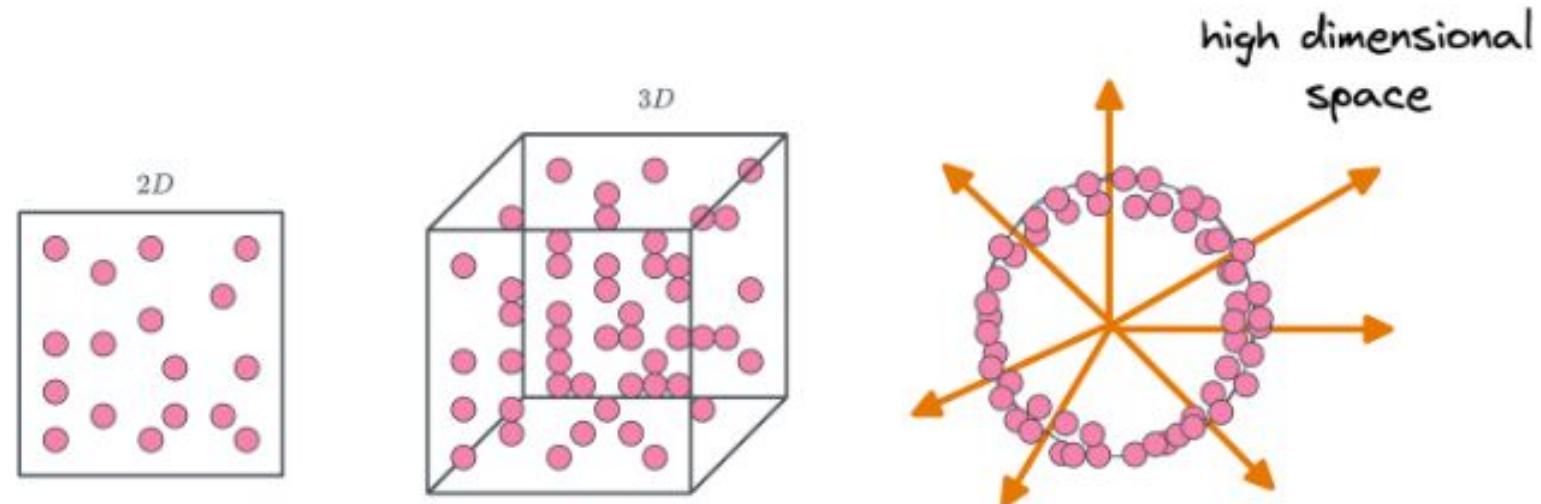
KNN is a supervised learning method



Model: K-Nearest Neighbourhood (KNN)

Curse of Dimensionality

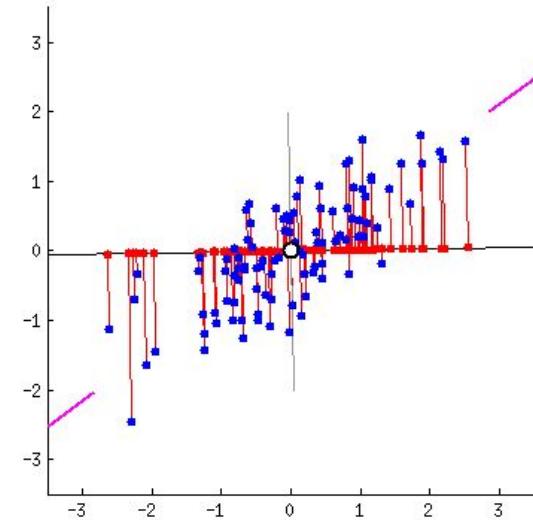
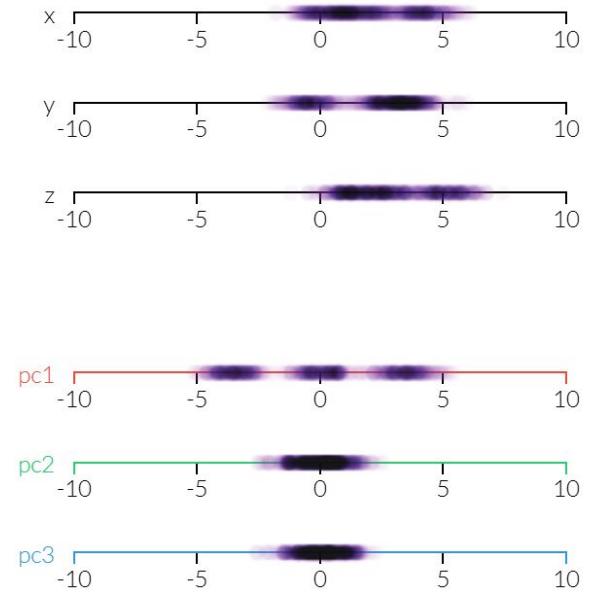
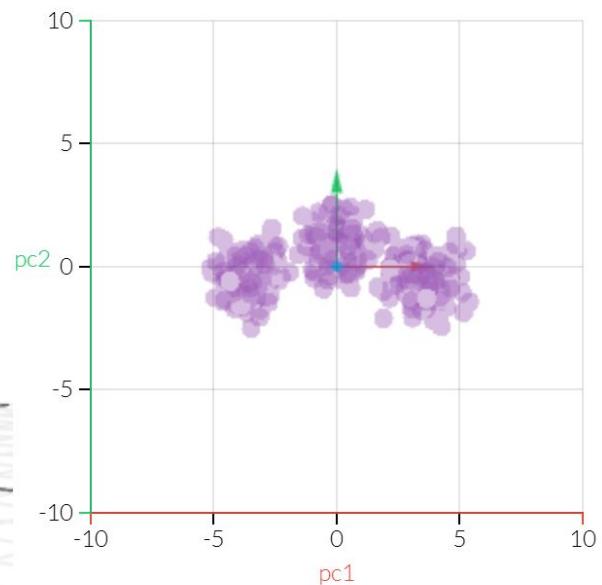
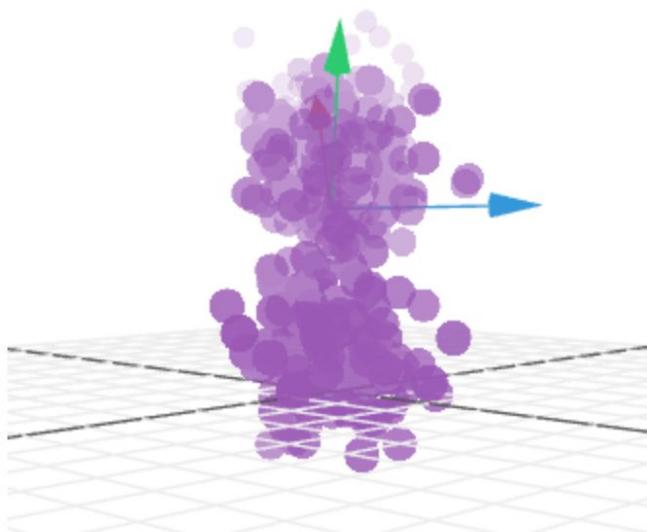
For high-dimensional data > 10 , dimension reduction is usually performed prior to applying the k-NN algorithm.



Dimensionality Reduction: Principal Component Analysis

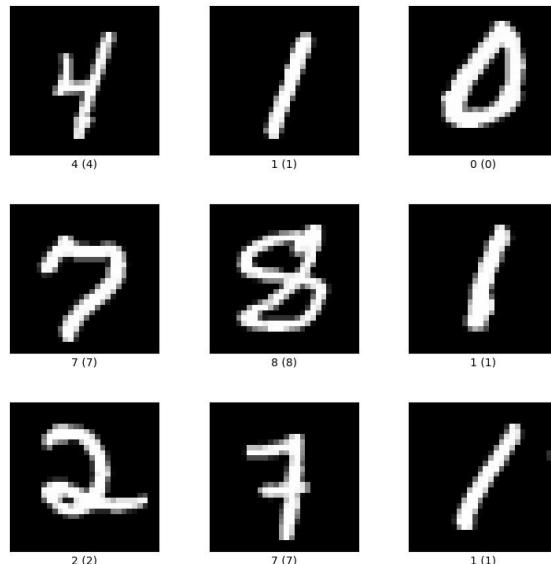
PCA

a technique used to emphasize variation and bring out strong patterns in a dataset.



Practice 1

MNIST Classification

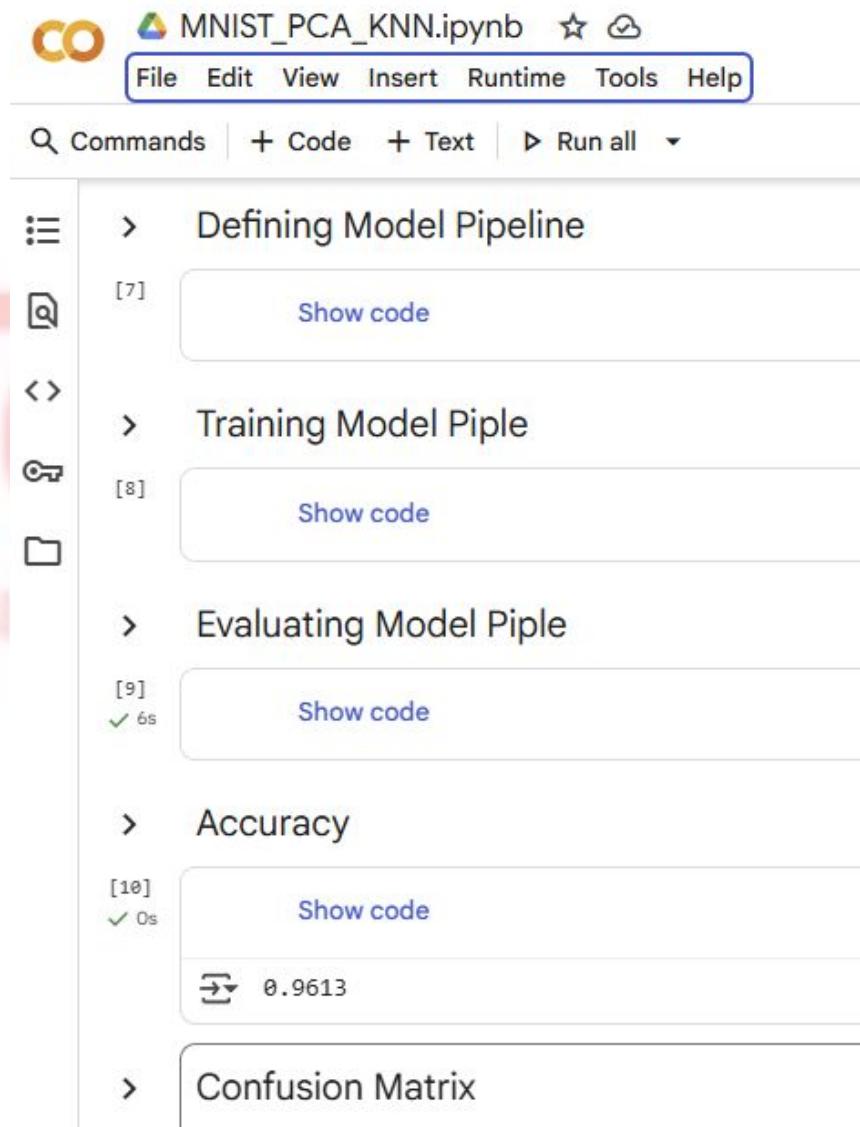


5 rows × 785 columns

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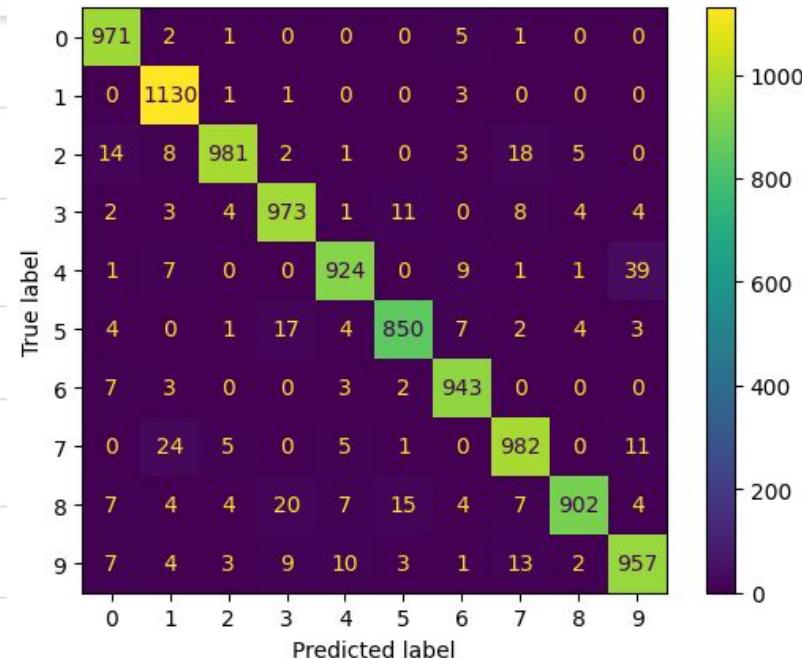
Practice 1

MNIST Classification



The screenshot shows a Jupyter Notebook interface with the following sections:

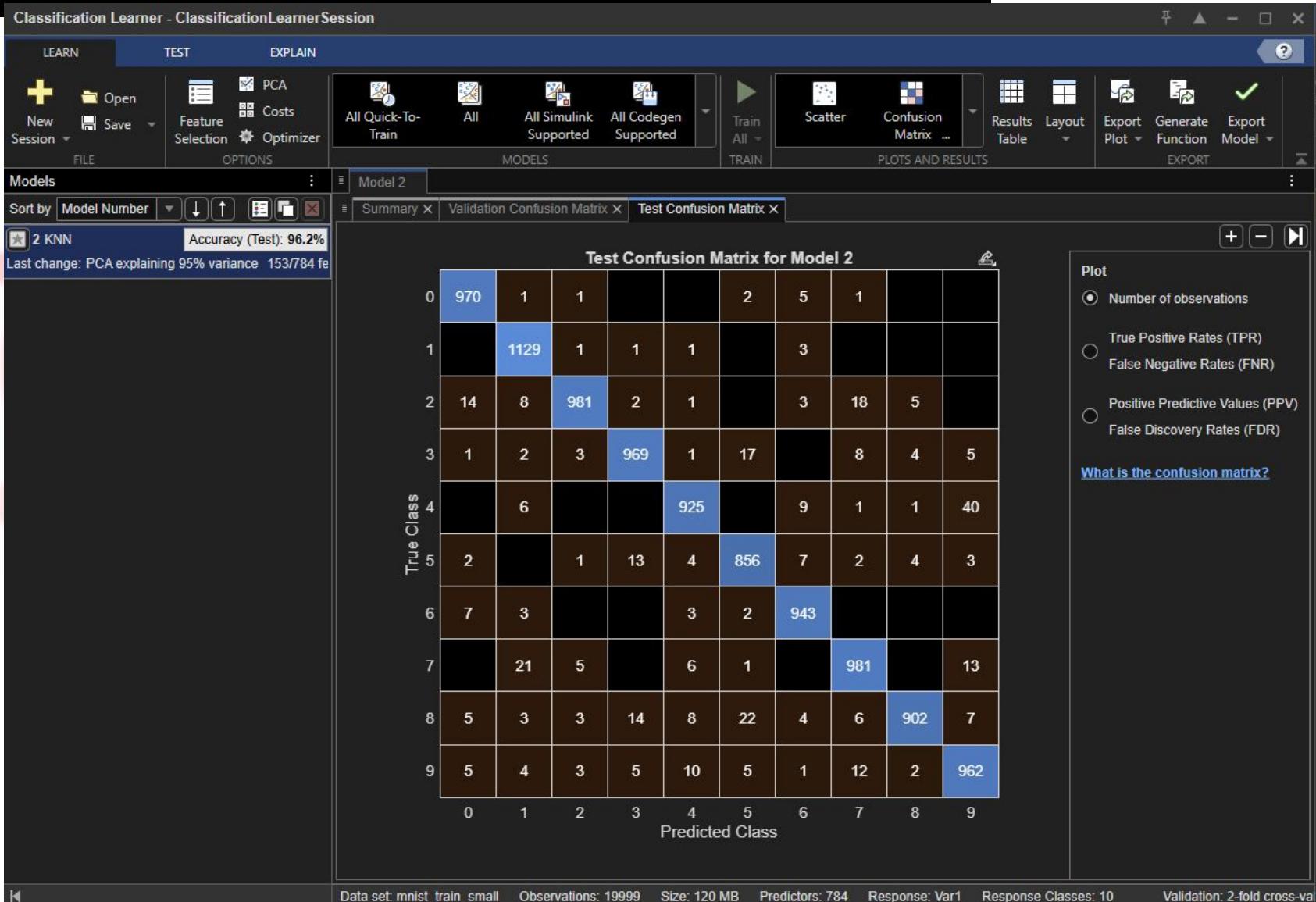
- Defining Model Pipeline**: Includes a "Show code" button.
- Training Model Piple**: Includes a "Show code" button.
- Evaluating Model Piple**: Includes a "Show code" button.
- Accuracy**: Shows a result of `0.9613`.
- Confusion Matrix**: A snippet of code is shown.



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Practice 1

MNIST Classification



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Deploying Your AI Model: Web as a Case Study

Python

Options

- [Streamlit](#)
- [Flask](#)
- [FastAPI](#)

Hosting

- [pythonanywhere](#)
- [Vercel](#)

Predict Hand Written Digit

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 figure_000.png 0.6KB





Uploaded



Processed



Prediction: 5



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