Data: train\_sin25\_100 -- (25,100) shape sine wave

Epoch 50,000

Batch size: 10

**Distribution Comparison**

Chart

Description automatically generatedChart, histogram

Description automatically generated

**Final Stats:**

A screenshot of a computer

Description automatically generated with medium confidence

**Input vs fixed output:**

Chart

Description automatically generated A picture containing chart

Description automatically generatedA picture containing chart

Description automatically generated

Input Data 5,000 epochs 50,000 epochs

**Dynamic outputs at different epochs**

A screenshot of a computer

Description automatically generated with low confidence

Test interpretation:

KS:

* KS stat(0,1) is 0.2, low suggesting identical distribution
* KS p-value(0,1) is 0.08, which is >0.05 where we reject the null hypothesis that the two distributions are equal
* Decision: KS-test can not differentiate the two distributions – **However**  the p-value is very close to 0.05

Granger Causality

* G stat(0,inf) is 31, which is low suggesting the synthetic data **can** be used to determine the training data
* G p-value(0,1) is 1e-5, which is <0.05 where we can reject the null hypothesis that the synthetic data is predictive of the training data
* Decision: training is predictable from the synthetic data

R^2 score

* R2 score of -0.44 suggesting the mean of the data is a better fit than the synthetic data