**Problem 1**

1. This causes the expected count to stay below the observed for both ‘circle’ but increase above observed for ‘triangle’, until about ~1.11 which then reverses the roles of the expected count.
2. The red bar shows a decrease in the expected count and blue bar represents an increase in the expected count.
3. When solve is selected

A screenshot of a computer

Description automatically generated

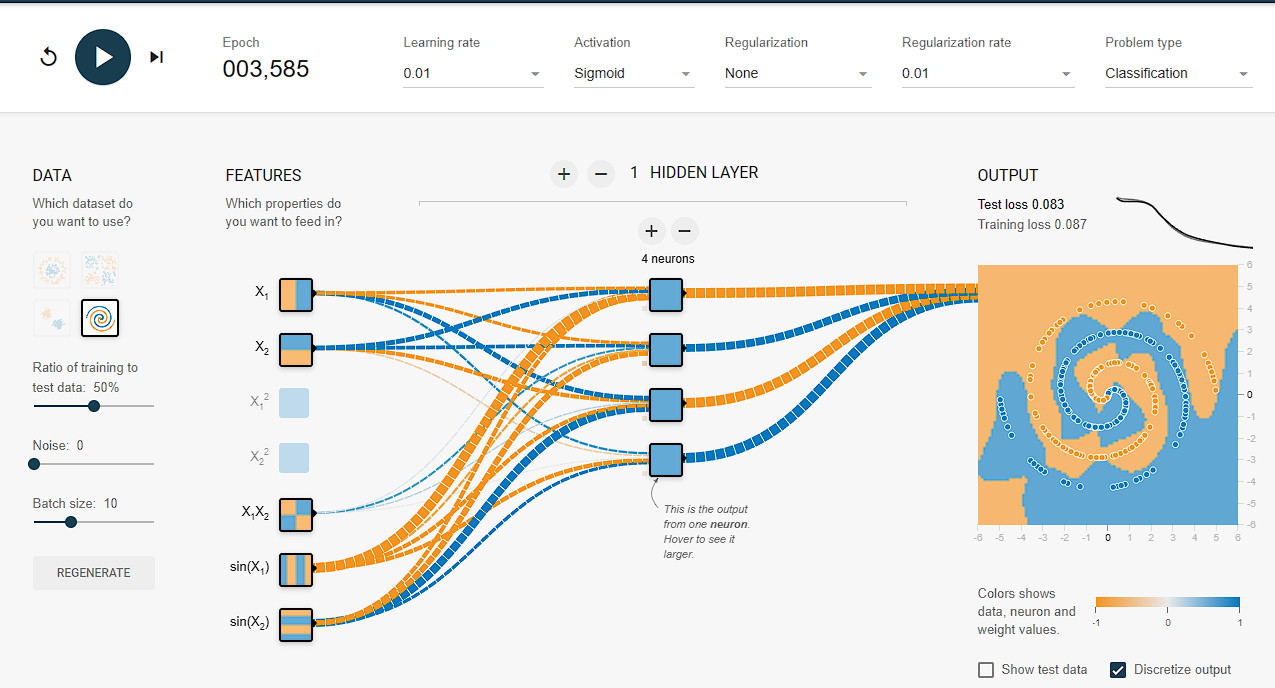
1. When regularization l1 is selected.

A screenshot of a computer

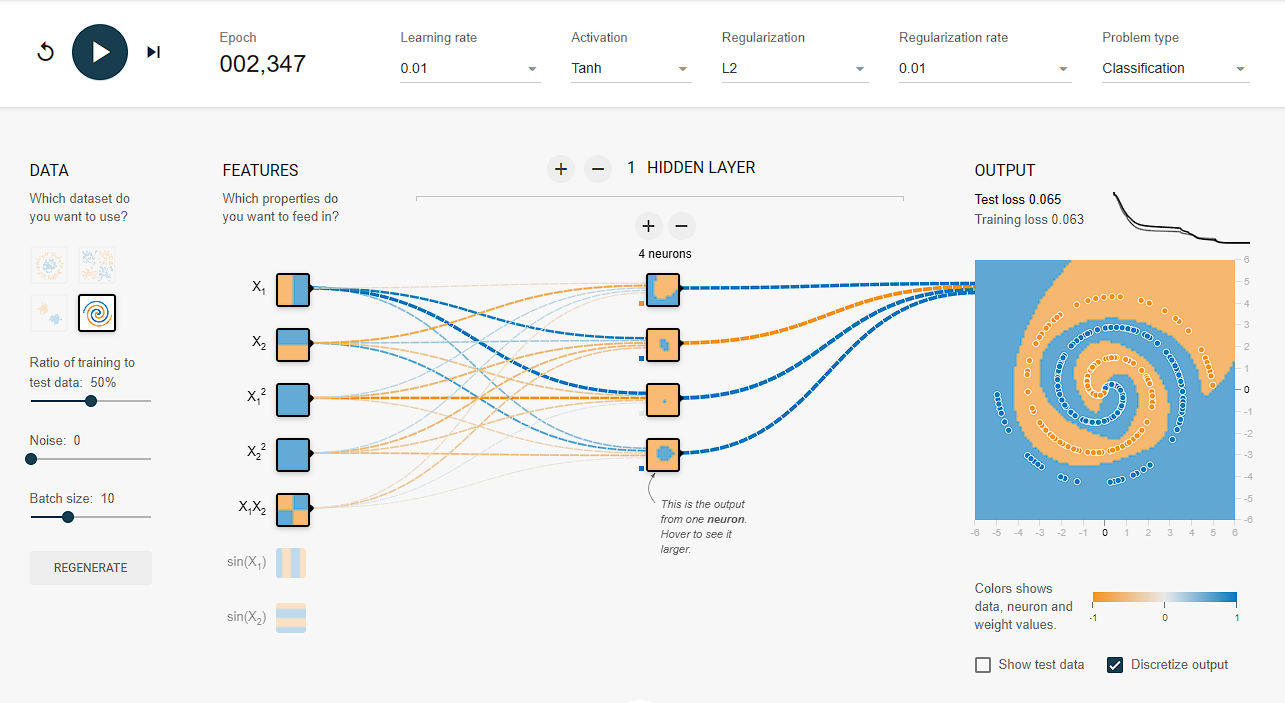
Description automatically generated

1. This is due the regularization of the model which helps reduce the over and underfitting of the previous result.
2. Z ensures that the value we calculate does not exceed 1 meaning, allowing our result to be bounded between 0 and 1.

**Problem 2**

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* Adding regularization should both lower the number of epochs and training/test loss



**Problem 3**

1. Kernel Size: 3x3

Stride length: 1

Maxpool window size: 2x2

1. This CNN only has two animals to compare against and so it seems fair to assume it would try to find a features that are similar. Thus, I believe this says that class ‘Espresso’ contains features that closely resemble those of the features identified in the ‘Coyote’ and ‘Rattlesnake’ classes.