

# Research in VGIS - Miniproject

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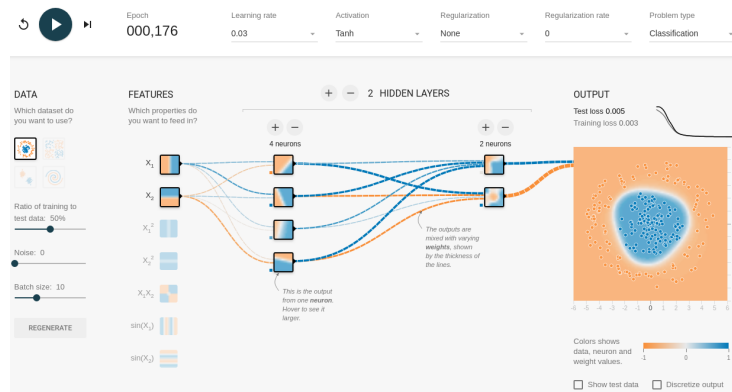
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## 1 Tensorflow Playground Tasks

### 1.1 Default settings

#### Circles data

The model converges very fast, within just around 150 iterations. The data is divided in a simple pattern, and with the given two hidden layers with four and two neurons, the pattern created from the data is learned in a fast manner. With this low a complexity of pattern only a few neurons a used to learn the pattern and to classify the data.

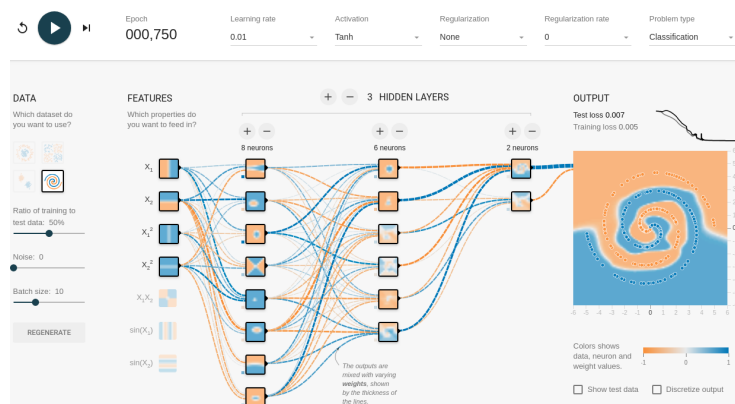
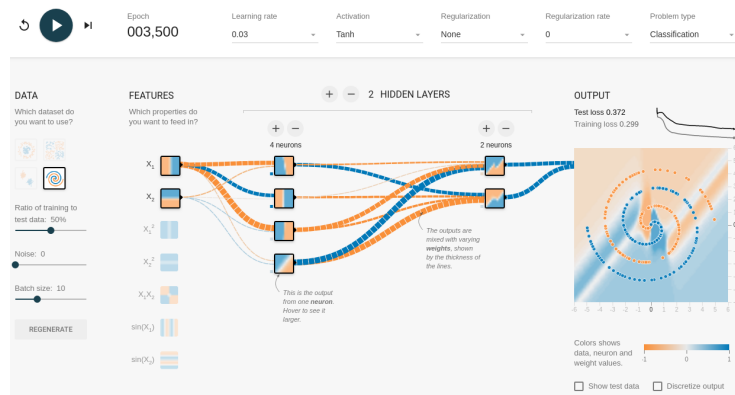


#### Spiral data

The model has a training loss of just around 0.3 and a test loss even higher. This points to an underfitting which means the model is not able to properly fit to the data with the given capabilities.

### 1.2 Alternated settings

By increasing the amount of neurons to eight and adding another layer with six neurons, the model is able to converge to the data and attain a fitting shape.



## 2 Quick, Draw! Doodle Recognition Challenge