Quality Model Guide

The Quality Modelling is kept in Google Drive because of the GPU and storage space available. The models train on large data samples and require a GPU. This environment also is not dependent on environmental setup.

The Quality Models are

1. Annotations Creator: create p files
2. DeepCNN: classifies the strength of the quality effects
3. VGGNett: classifies the sign type
4. QualityImpactModel: decision tree models the uncertainty relationship
5. ConfidenceIntervals: generates confidence intervals for model accuracy as well as per node or leaf

DEEP CNN:

1. Input data is the quality factor of choice
2. The original data is kept in the **data\_output/TSD/p\_files**
3. The mixed effects are kept in the **data\_output/TSD/mixed\_p\_files \*** feel free to add more permutations if desired

The p-files are dictionaries which contain the data required for the DeepCNN and VGNETT.

The keys included are {"data":[], "labels":[], "quality\_data\_label": []}

The script will set the labels.

VGGNett CNN:

1. Boiler-plate VGGNett with some modifications
2. The final validation finals can be used on a trained model
3. P files are also used as input data

Quality Impact Model:

1. Uses the annotated p file from the VGNett. Can be easily swamped for other training data.
2. Different approaches are contained in the script (random forest, etc)
3. Requires a GPU for the random forest training.