*PROJECT ASSESSMENT RUBRICS: German Traffic Sign Classification*

**CRITERIA MEETS SPECIFICATIONS**

**Files Submitted**

Submission Files The project submission includes all required files.

Ipython notebook with code

HTML output of the code

A write-up report (either pdf or markdown)

**Dataset Exploration**

Dataset Summary The submission includes a basic summary of the data set.

Exploratory Visualization Submission includes exploratory visualization on the dataset.

**Design and Test a Model Architecture**

Preprocessing The submission describes the preprocessing techniques used and why these techniques were chosen.

Model Architecture The submission provides details of the characteristics and qualities of the architecture, including the type of model used, the number of layers, and the size of each layer. Visualizations emphasizing particular qualities of the architecture are encouraged.

Model Training The submission describes how the model was trained by discussing what optimizer was used, batch size, number of epochs and values for hyperparameters.

Solution Approach The submission describes the approach to finding a solution. Accuracy on the validation set is 0.93 or greater.

**Test a Model on New Images**

Acquiring New Images The submission includes five new German Traffic signs found on the web, and the images are visualized. Discussion is made as to particular qualities of the images or traffic signs in the images that are of interest, such as whether they would be difficult for the model to classify.

Performance on New Images The submission documents the performance of the model when tested on the captured images. The performance on the new images is compared to the accuracy results of the test set.

Model Certainty - Softmax Probs The top five softmax probabilities of the predictions on the captured images are outputted. The submission discusses how certain or uncertain the model is of its predictions.