**FER 2013 Datasets:**

The data consists of 48x48 pixel grayscale images of faces. contains approximately 30,000 facial RGB images The faces have been automatically registered so that the face is more or less centred and occupies about the same amount of space in each image.

FER2013 was designed by Goodfellow et al. as a competition to promote researchers to develop better FER systems. The top three teams all used CNNs trained discriminatively with image transformations.

The task is to categorize each face based on the emotion shown in the facial expression into one of seven categories (0=Angry, 1=Disgust, 2=Fear, 3=Happy, 4=Sad, 5=Surprise, 6=Neutral). The training set consists of 28,709 examples and the public test set consists of 3,589 examples.

FER2013 is a well-studied dataset and has been used in ICML competitions and several research papers. It is one of the more challenging datasets with human-level accuracy only at 65±5% and the highest performing published works achieving 75.2% test accuracy. Easily downloadable, the dataset’s 35,887 contained images are normalized to 48x48 pixels in grayscale. FER2013 is, however, not a balanced dataset, as it contains images of 7 facial expressions, with distributions of Angry (4,953), Disgust (547), Fear (5,121), Happy (8,989), Sad (6,077), Surprise (4,002), and Neutral (6,198) .

Although several FER datasets are available online, they vary widely in image size, color, and format, as well as labeling and directory structure. We addressed these differences by simply partitioning all input datasets into 7 directories (one for each class). During training, we loaded images in batches from disk (to avoid memory overflow) and utilized Keras data generators to automatically resize and format the images.