CNN-Model Description

### Dataset:

#### Custom dataset

#### (https://github.com/SuseelKumarG/flavorfusion/tree/main/dataset)

### Model details:

#### The model architecture is inspired from the InceptionNet model. The architecture of this model starts with 2 CNN layers followed by 4 blocks of parallel CNN layers. Each block contains four parallel CNN layers of different kernel size for multi-feature extraction and finally this is ended with one average pooling, 2 dropout and 3 fully connected layers. Each CNN layer is followed by ReLU and Batch normalization.

### Model results:

#### The model achieved an accuracy of 78% on the training set with heavy augmentation and an accuracy of 88% on the testing set with no augmentation.

Dataset Description

### 

### This dataset contains 45 classes and contain the following items

### Fruits:

##### apple, banana, grapes, kiwi, lemon, mango, orange, pear, pineapple, pomegranate, and watermelon

### Vegetables:

##### beetroot, cabbage, capsicum, carrot, cauliflower, chilli pepper, corn, cucumber, eggplant, garlic, ginger, jalapeno, lettuce, onion, peas, potato, radish, soy beans, spinach, sweetpotato, tomato, and turnip

### Spices:

##### cinnamon, cloves, corriander, corriander\_seeds, cumin, fennel\_seeds, nutmeg, paprika, saffron, star\_anise, tamarind, and turmeric

#### Samples for training : 4,035

#### Samples for testing : 450

#### Samples for validation: 450

Parameters:

#### Total params: 5,182,539

#### Trainable params: 5,179,627

#### Non-trainable params: 2,912

#### Total Numbers of Network Layers: 73

### Hyperparameters used:

#### Number of Convolutional Layers: 19

#### Number of ReLU Layers: 21

#### Number of Dense Layers: 3

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