Saarthi.ai
AI Engineer, Assignment Report

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Objective

Extract the action, object and location from a given transcription.

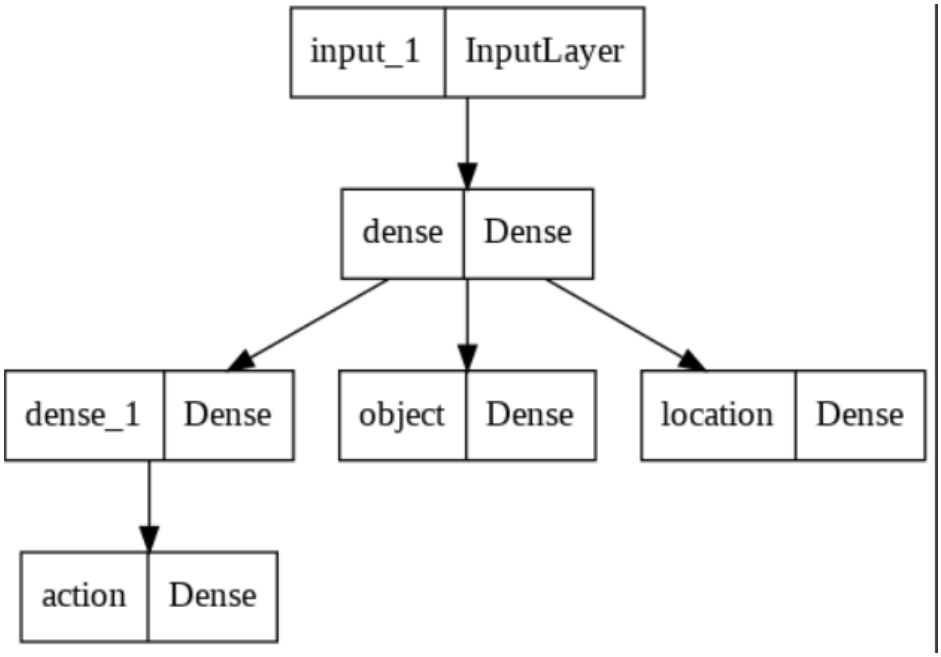
Method

First, we read the train and the validation csv s and drop the path column since we would not be using it for our objective. Create 4 “tf.keras.preprocessing.text.Tokenizer()” one for each of transcription, action , object and location. Then the whole dataset is Tokenized according to the respective Tokenizers. The tokenized sequence for Transcription is padded to the “max length ” as specified by the configuration file. The tokenized sequences for the other three columns are converted to one-hot encoding using keras.utils.to_categorical().

```
data_directory: /content/
train_data_name: train_data.csv
valid_data_name: valid_data.csv
drop_columns: ["path"]
model_save_directory: /content/
model_save_name: entity_find

input_max_len: 15
optimizer: adam
loss: categorical_crossentropy
metrics: ["accuracy"]
tensorboard_log_directory: /content/logs/
epochs: 150
```

The model is then trained according to the parameters set in the configuration file.



The model and tokenizers are saved in the directory specified in the configuration file.

For the Test.py , the same tokenizers are loaded from the saved location, specified in the configuration file. Then the saved model is loaded.

```
AIEngg > ! test_conf.yaml
1   data_directory: /content/
2   test_data_name: test_data.csv
3   saved_model_directory: /content/
4   saved_model_name: entity_find
5   input_max_len: 15
```

The predictions are found using this model , and f1 score is calculated for each of the three outputs using sklearn.metrics.f1_score().

```
!python test.py --config test_conf.yaml

2021-11-21 17:20:31.741924: W tensorflow/core/common_runtime/gpu/
F1 Score:  0.9687023542127187   0.9676070295424449   1.0
```