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# **Dataset:**

Here Huawei Mobile dataset 2021\_2022 in excel file is attached:



# **Using\_Word2Vec:**

I have applied **Word2Vec** algorithm on Huawei mobile dataset.

The output has following results:

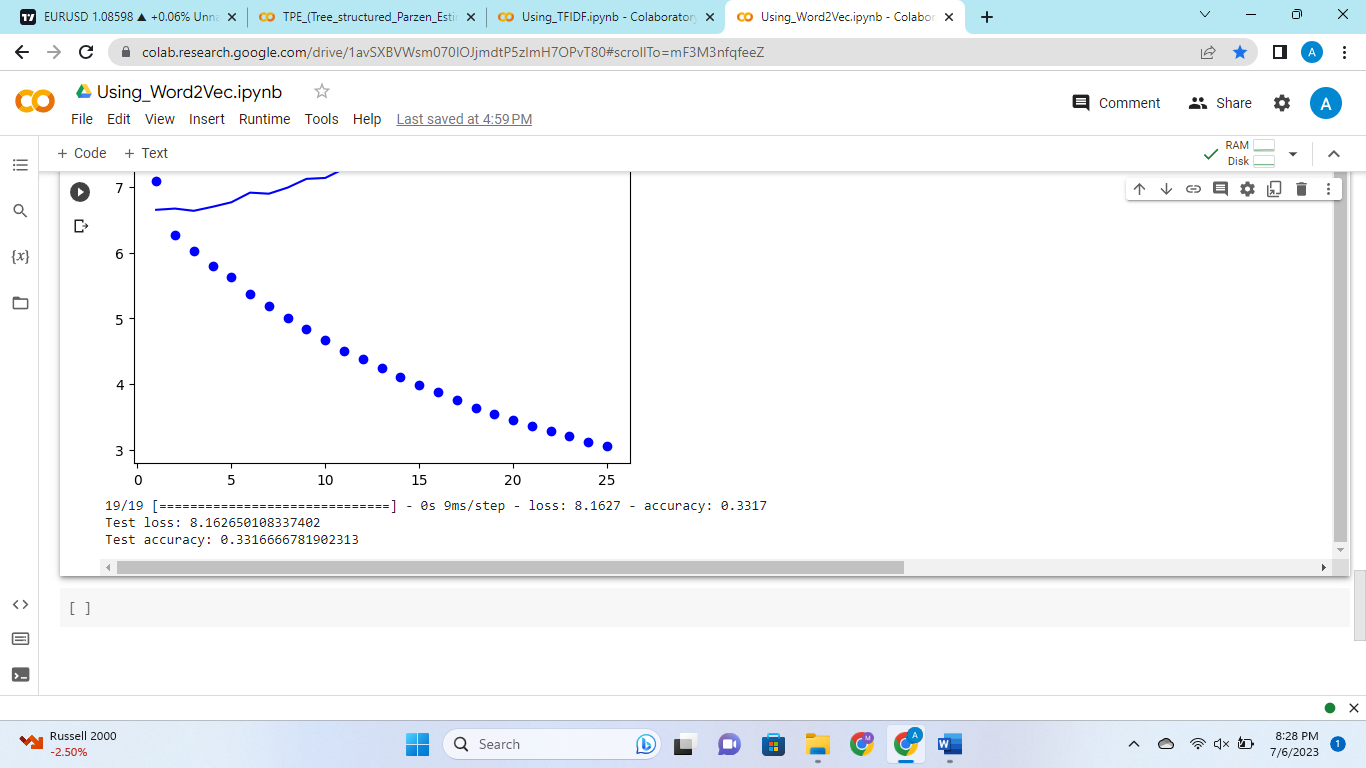
* Test loss: 8.162650108337402
* Test accuracy: 0.3316666781902313

## **Source Code**:

Here source code file of this algorithm in ipynb file is attached:



## **Output:**



# **Using\_****TFIDF:**

I have applied **TFIDF** algorithm on Huawei mobile dataset.

The output has following results:

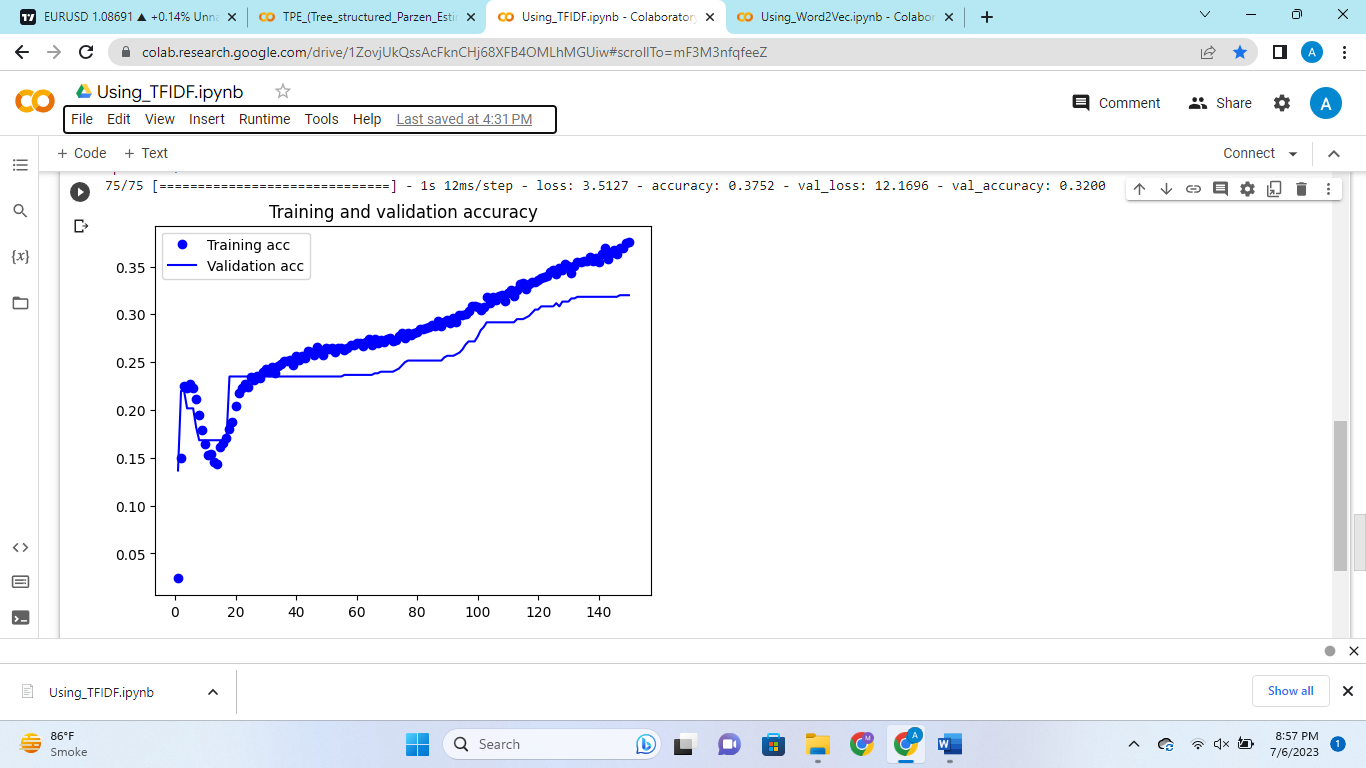
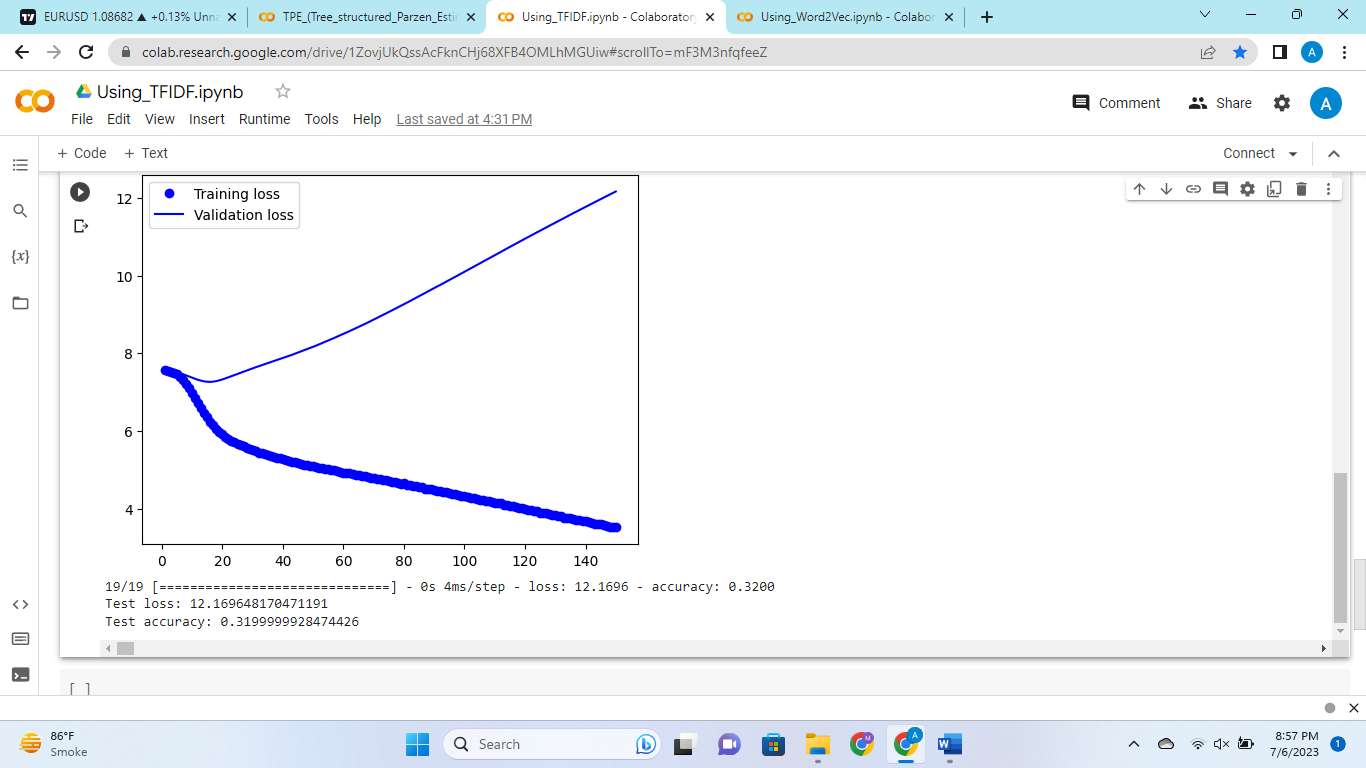
* Test loss: 12.169648170471191
* Test accuracy: 0.3199999928474426

## **Source Code:**

Here source code file of this algorithm in ipynb file is attached:



## **Outputs:**



# **TPE\_(Tree\_structured\_Parzen\_Estimator) \_optimization\_algorithm**

I have applied **TPE\_optimization\_algorithm** on Huawei mobile dataset.

The output has following results:

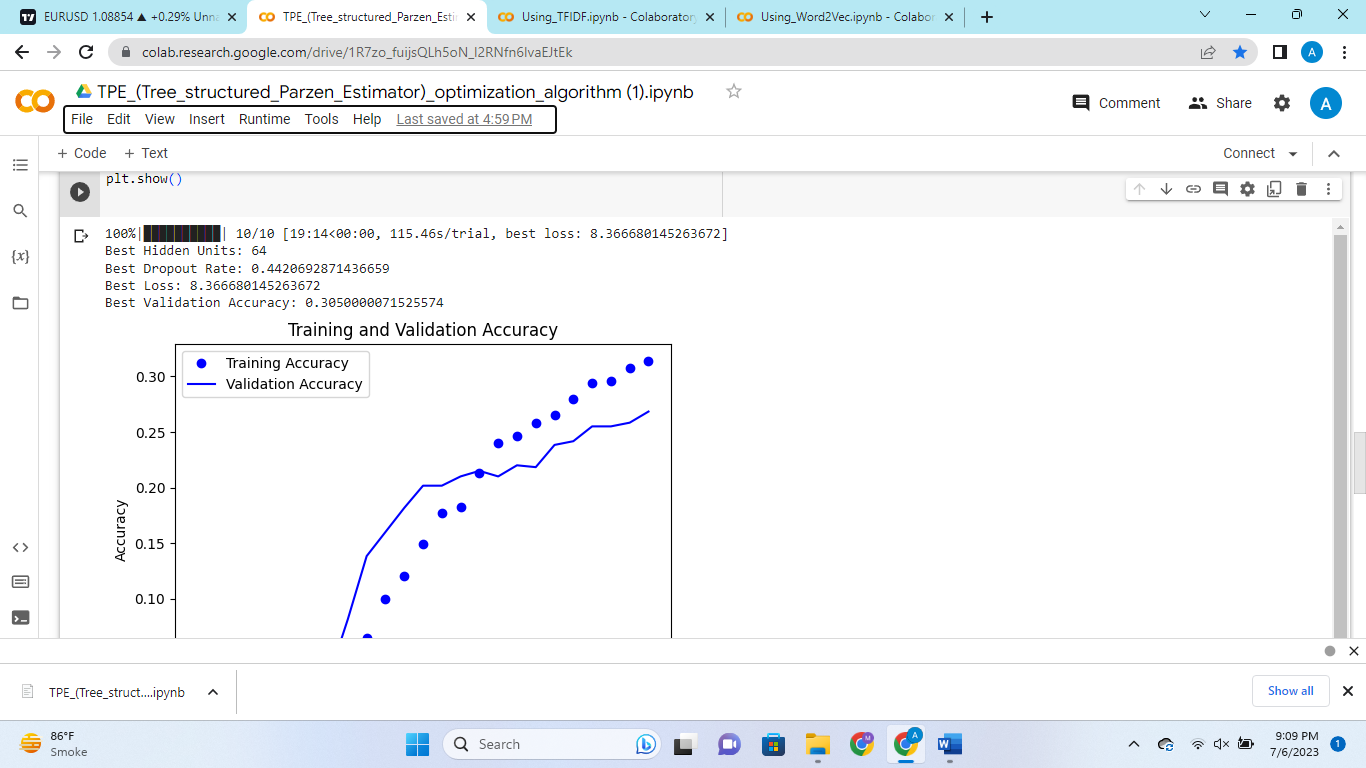
* Best Hidden Units: 64
* Best Dropout Rate: 0.4420692871436659
* Best Loss: 8.366680145263672
* Best Validation Accuracy: 0.3050000071525574

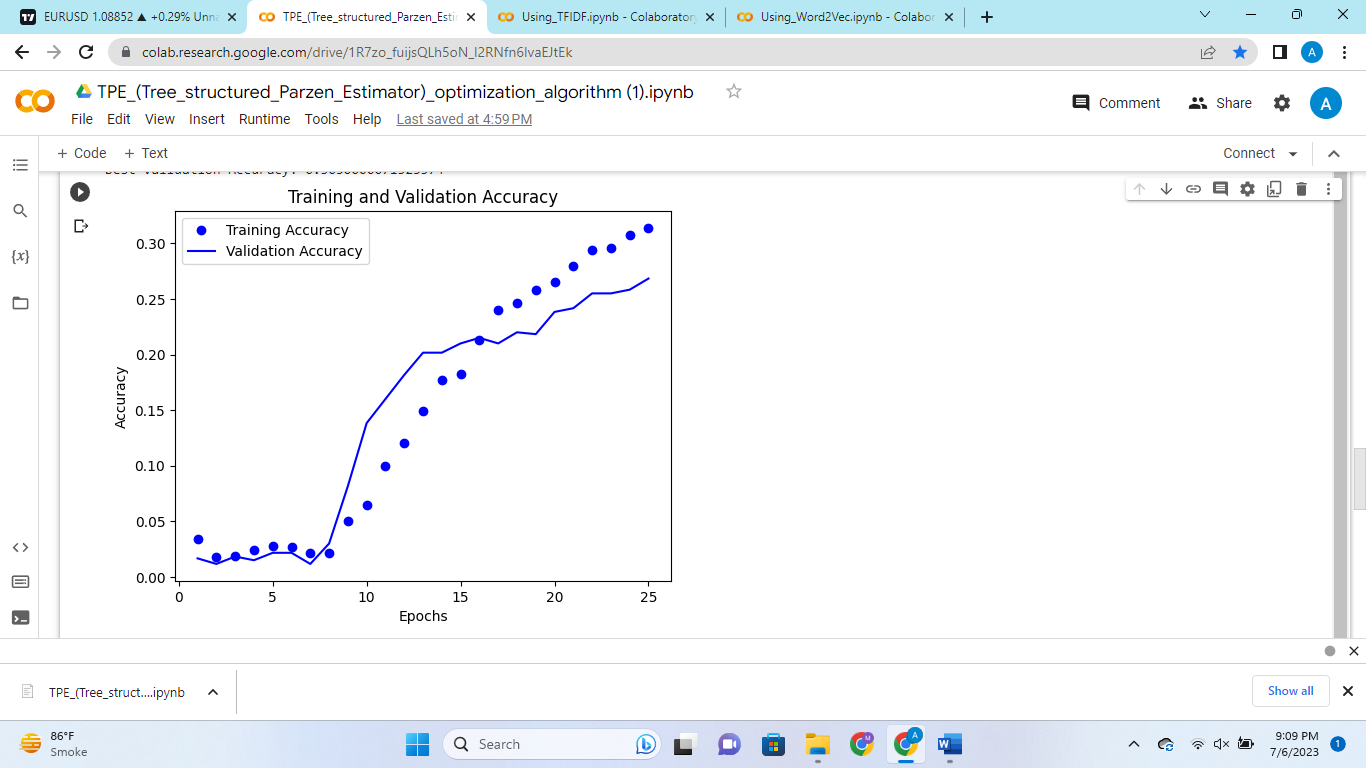
## **Source Code:**

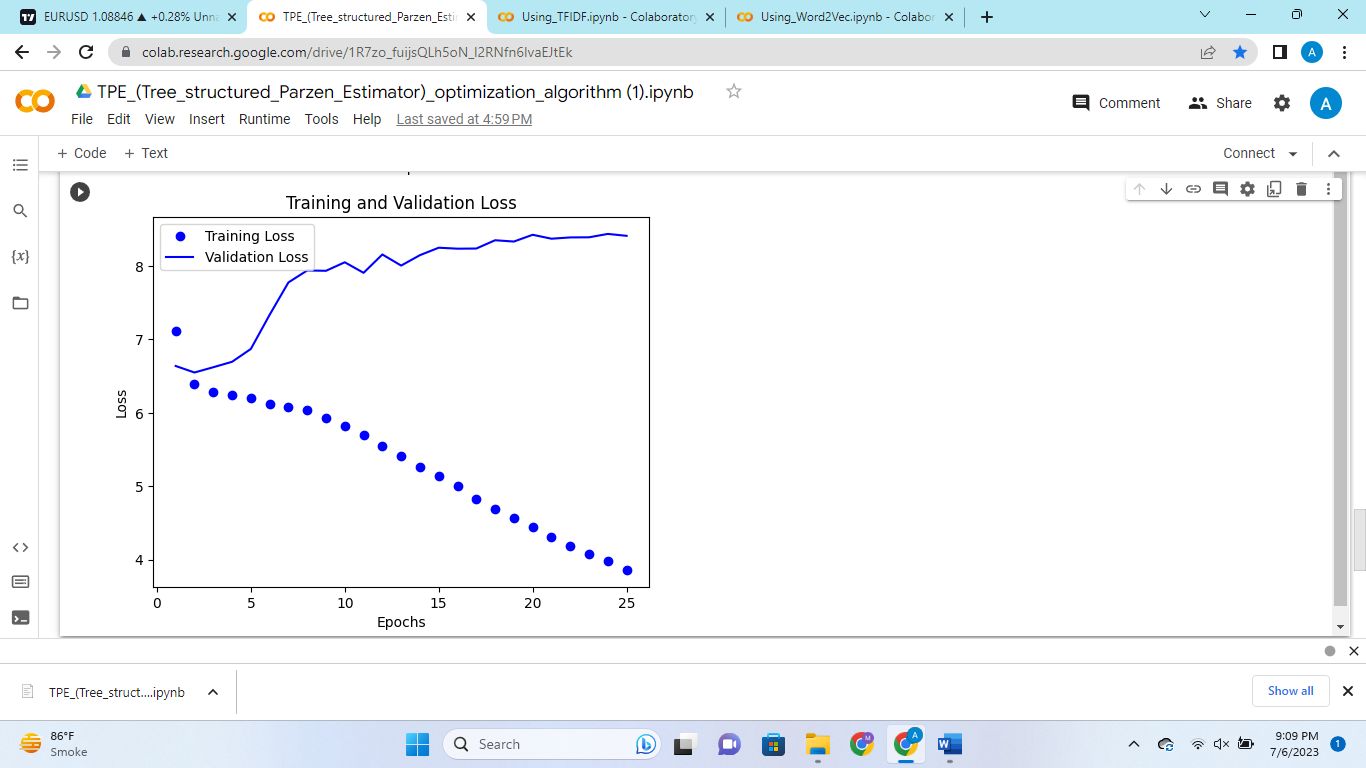
Here source code file of this algorithm in ipynb file is attached:



## **Outputs:**







# **Using\_Bert\_Model:**

I have applied **Using\_Bert\_Model** on Huawei mobile dataset.

Which has following tokenizer and Bert model:

* Bert Tokenizer: bert\_based\_uncased
* Bert Model: TFBert\_Model

The output has following results:

* Test loss: 7.469927787780762
* Test accuracy: 0.23499999940395355

## **Source Code:**

Here source code file of this algorithm in ipynb file is attached:



## **Output:**

