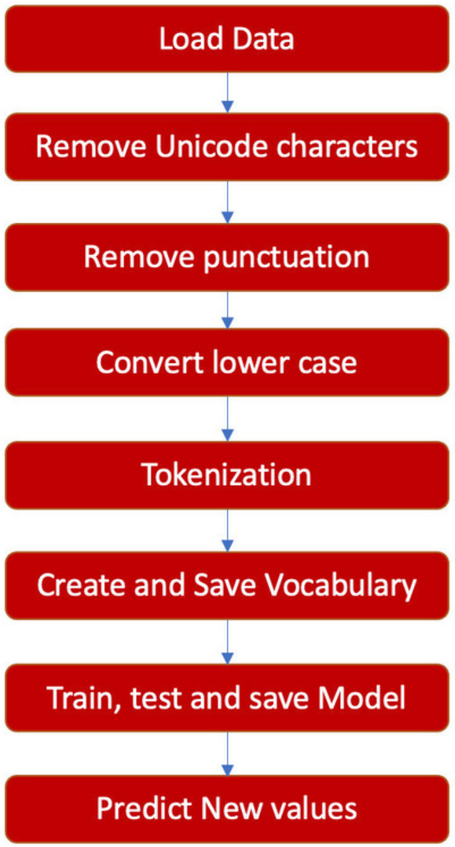
# MINI-PROJECT V

TRANSLATOR
ENGLISH-FRENCH

# Process Overview

Natural Language Processing and Deep learning

Automatic manipulation of language.



# Tools

Python 3.8: Numpy, Keras, Pandas, Pickle.

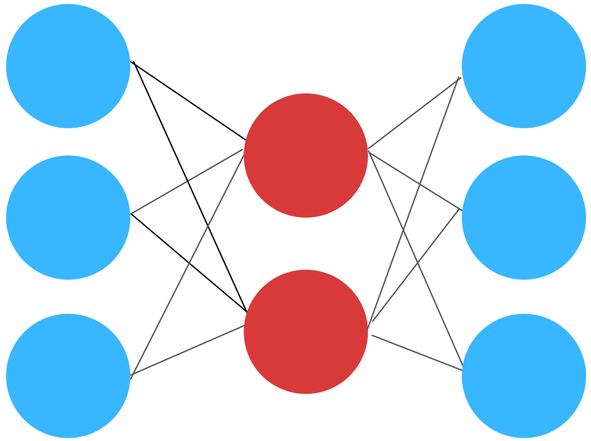
Bash: iconv and strings.

Jupyter Lab

Google Colaboratory

# Model

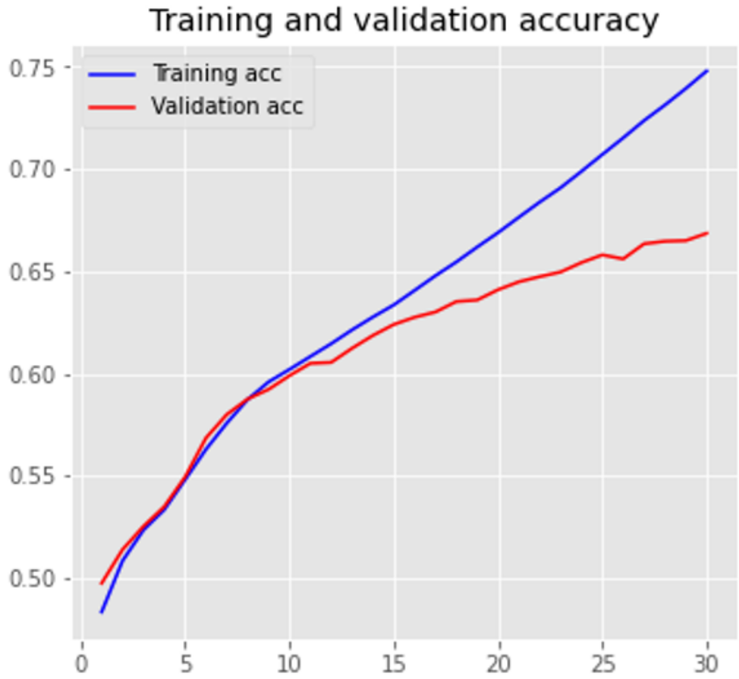
Architecture: LSTM

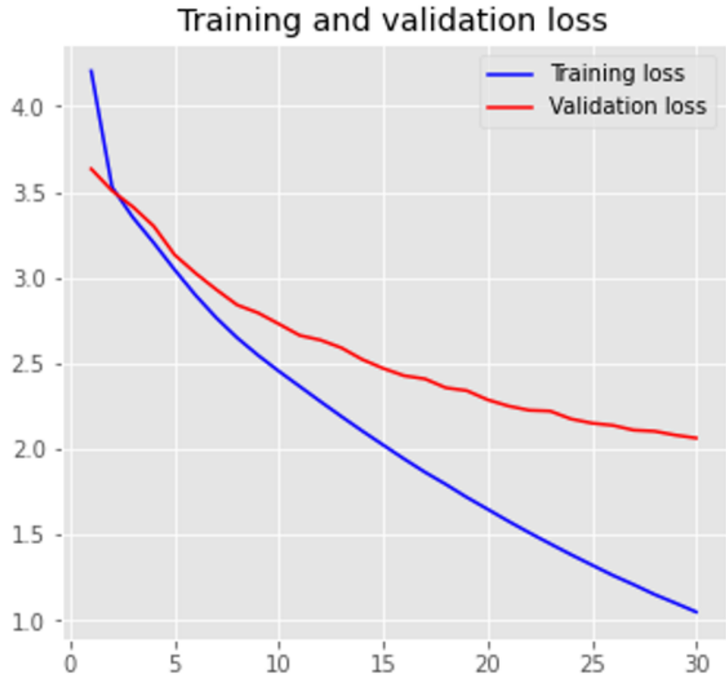


5 Layers

1. Input
2. LSTM
3. RepeatVector
4. LSTM
5. Output (softmax)

# Training and Validation




Training accuracy: 0.7481

Validation accuracy: 0.6710

Training loss: 1.0255

Validation loss: 2.0641

# Translation Results

| english | actual | predicted | |
|---|---|---|---|
| i like tea | jaime le th | jaime le musique | I love music |
| im firing you | je te vire | je vous vire | I fire you |
| i am a tourist | je suis touriste | je suis un touriste | I am a tourist |
| it smells bad | a sent mauvais | a sent bon | smells good |
| im not happy | je ne suis pas content | je ne suis pas riche | I am not rich |
| the pain is gone | la douleur a disparu | la lune est | the moon is |
| do you like this music | aimestu cette musique | aimezvous aimez le musique | do you like music |

# Conclusions

### RNN ARCHITECTURES

Powerful tool for NLP

### COMPUTING RESOURCES

Deep learning architectures require powerful computers

### BETTER UNDERSTANDING

More tiem to resarch about architectures and test different datasets