



LipRead

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Motivation



60%



30%



?

Overview



Dataset

- LRW
- LipNet dataset
- MIRACL-VC1



Vocabulary

- 26 Letters
- Set of words



Preprocessing

- Crop out the lips
- Make grayscale
- Break into words
- Break into letters



Model

- CNN
- GRU
- LSTM
- Classifier
- Regressor

Dataset

```
0 23750 sil
23750 29500 bin
29500 34000 blue
34000 35500 at
35500 41000 f
41000 47250 two
47250 53000 now
53000 74500 sil
```



Dataset used is a part of <https://spandh.dcs.shef.ac.uk/gridcorpus/> dataset

ABCDEFGHIJKLMNOPQRSTUVWXYZ

- Classification by the letter
- Poor performance
- Difficult to train with limited resources
- Ideal solution if it worked
- Suitable for any number of words

**'now','bin','white','soon','green','lay',
'blue','place','again','please'**

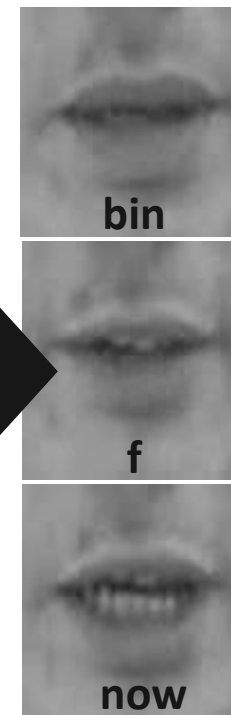
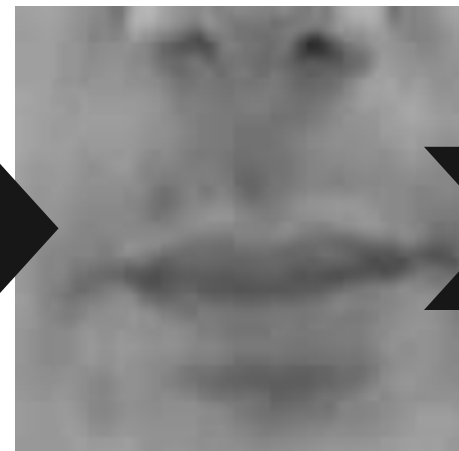
- Classification by words
- Good performance
- Can train with maximum resource utilization
- Is not ideal for large number of words.

Vocabulary

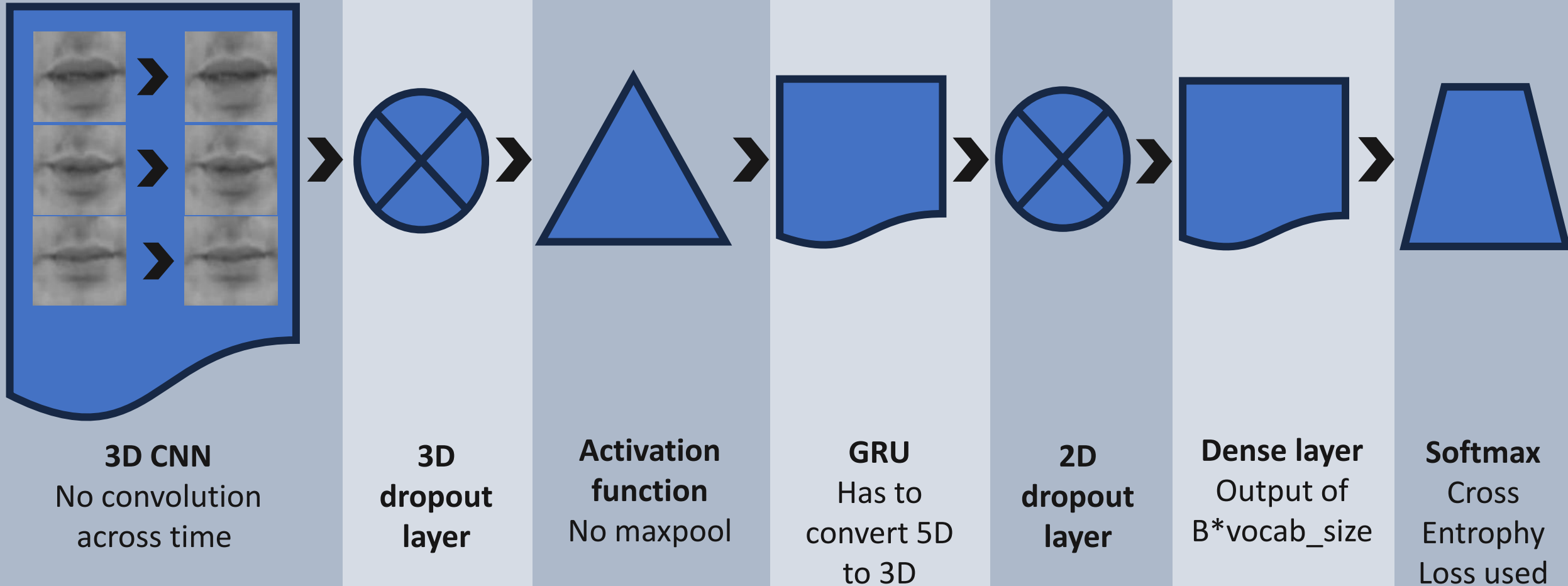
Preprocessing



Bin blue at f two
now

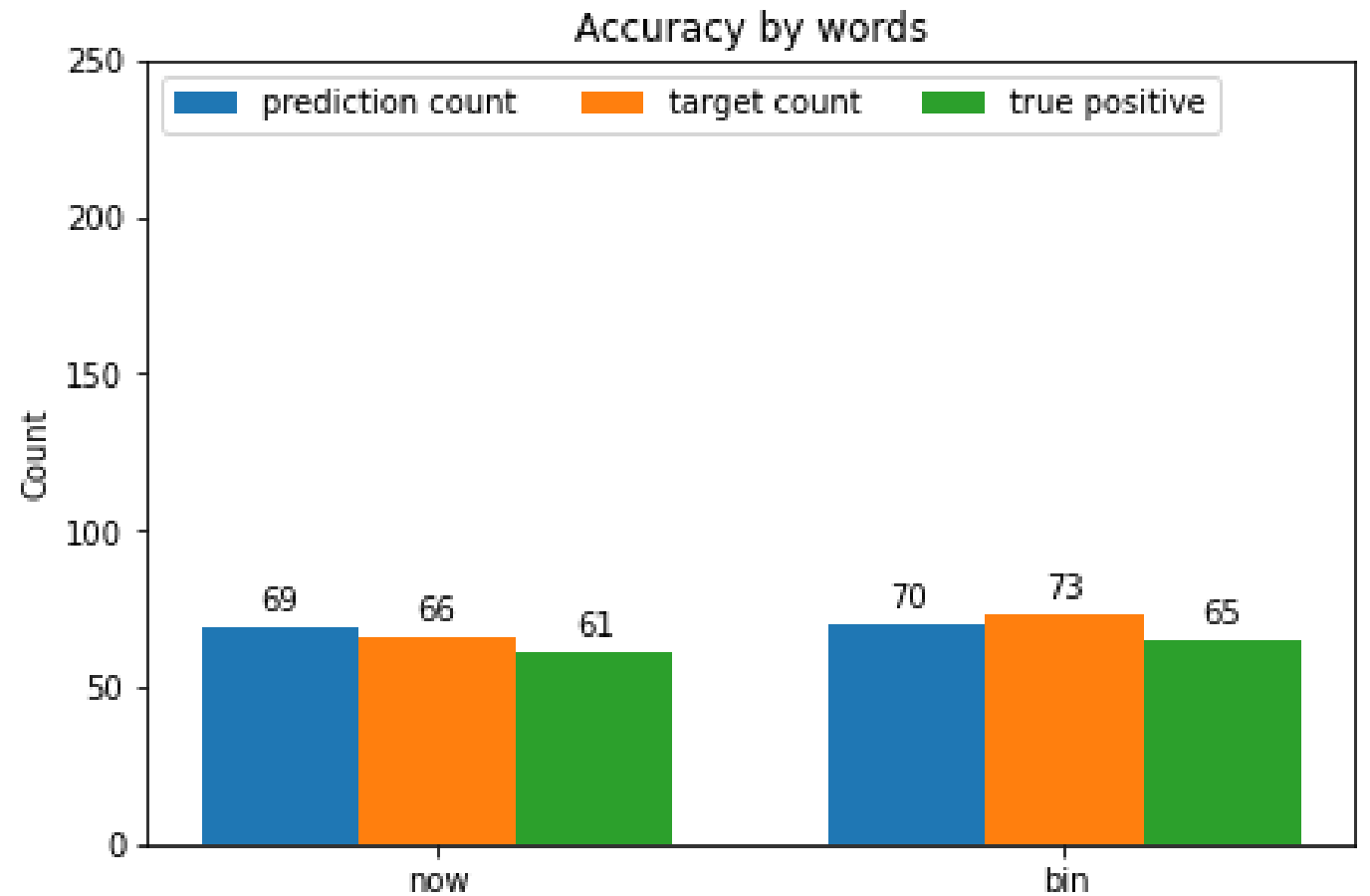


Model



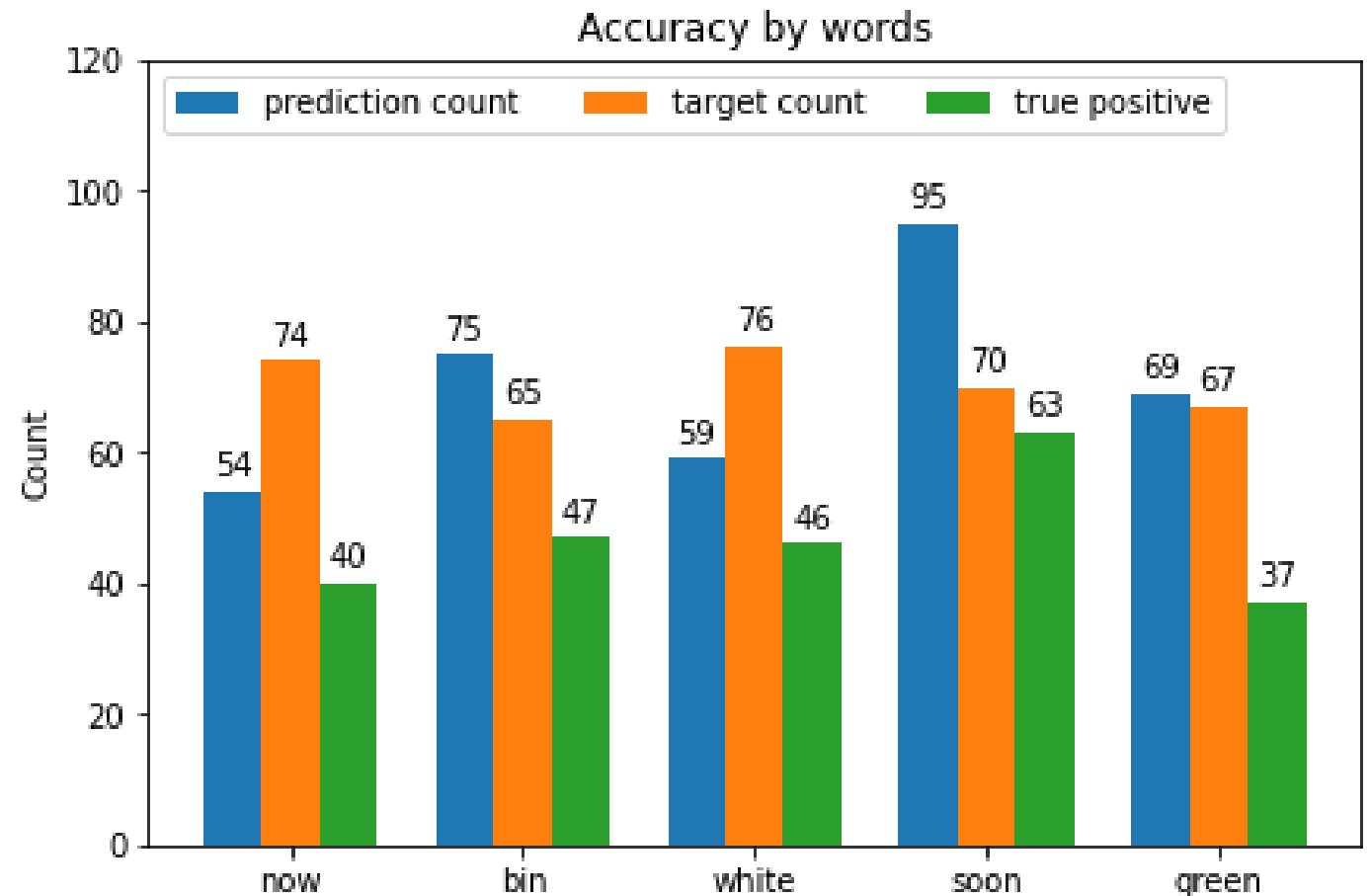
Performance for vocab of : now, bin

- Accuracy is 91%



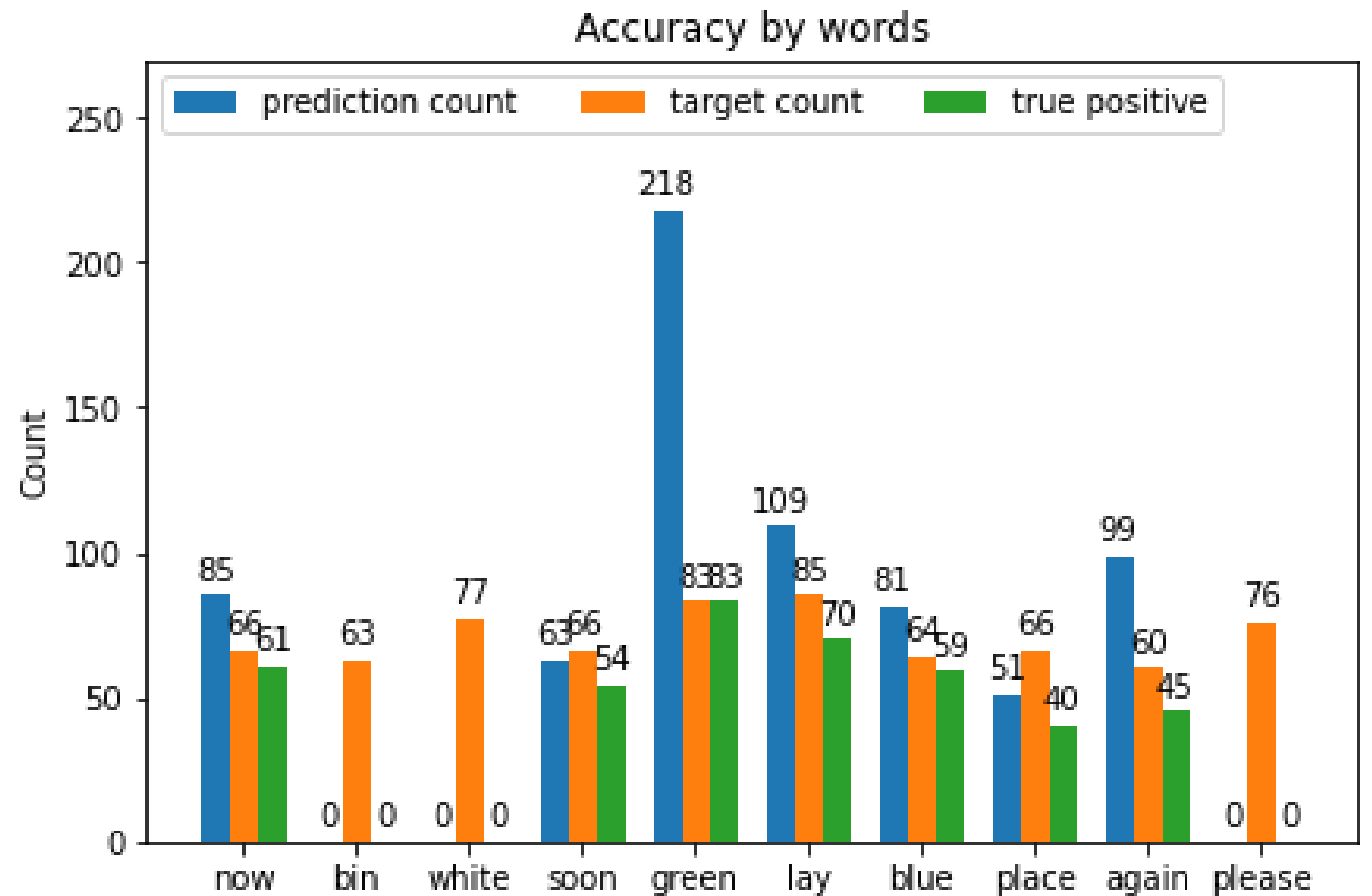
Performance for vocab of :
now, bin, white, soon, green

- Accuracy is 66.19%



Performance for vocab of :
now, bin, white, soon, green, lay,
blue, place, again, please

- Accuracy is 59%
- Some words are completely ignored



Demo

Vocab :

now, bin, white, soon, green, lay, blue, place, again, please



Demo

Vocab :

now, bin, white, soon, green, lay, blue, place, again, please



again



green



place



The End