

Text summarization

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1 Theoretical introduction

A Hopfield network (or Ising model of a neural network or Ising–Lenz–Little model) is a form of recurrent artificial neural network and a type of spin glass system popularised by John Hopfield in 1982 as described earlier by Little in 1974 based on Ernst Ising’s work with Wilhelm Lenz on the Ising model. Hopfield networks serve as content-addressable ("associative") memory systems with binary threshold nodes, or with continuous variables. Hopfield networks also provide a model for understanding human memory.

1.1 Problem definition

The CNN / DailyMail Dataset is an English-language dataset containing just over 300k unique news articles as written by journalists at CNN and the Daily Mail. The problem is to summarize the article with keywords.

1.2 Training

We have trained our model for 175000 epochs using 90% of the data set. We did not base on the loss function graph, so we could check performance of our model on the same data set.

2 Running the program

2.1 Install requirements

pip install -r requirements.txt

2.2 Download the dataset

Do it manually from the [link](#)

2.3 Run main.py

3 Demonstration

text: police constable javaid ahmad dar kidnapped terrorists local medical shop jammu kashmir shopian thursday found dead friday kulgam . reportedly picture dar shirtless suspected taken abductors also surfaced online . last month army jawan aurangzeb abducted killed terrorists .

summarization: policeman kidnapped terrorists found dead jk

text: actor sumeet raghavan portrayed character dr sahil sarabhai show arabhai vs sarabhai said rewatching show order prepare upcoming web series . there change far look concerned added . sumeet said cannot wait start shooting web series .

summarization: rewatching sarabhai vs sarabhai web series sumeet

text: cristiano ronaldo reportedly get paid 30 million annually new club juventus four times salary italian club highest earner exreal madrid teammate gonzalo higuain . further based italy taxation rates ronaldo gross pay including bonuses would lesser real madrid pay four champions league nine years .

summarization: ronaldo pay new club 4 times top earner

text: around nine deliveries performed candlelight torchlight governmentrun dehradun hospital electricity disrupted several hours . hospital said power supply could resumed due glitch generator electrician employed leave . power reportedly disrupted tuesday resumed 14 hours wednesday .

summarization: 9 babies delivered candlelight electrician goes leave

4 Conclusion

The network finds keywords pretty well however it could be improved.