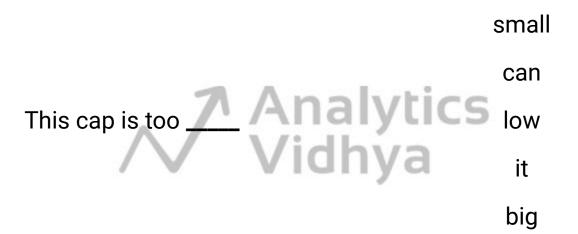
Introduction to Language Modeling

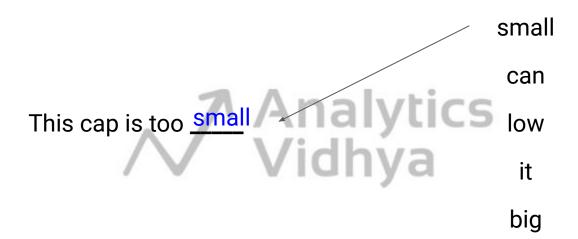


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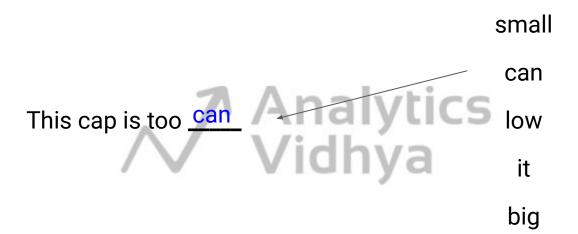








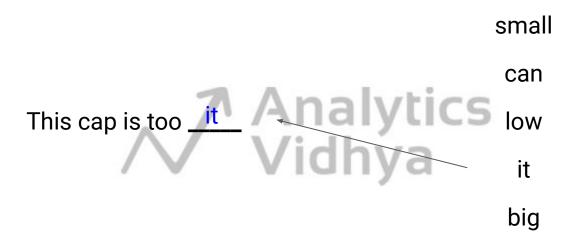




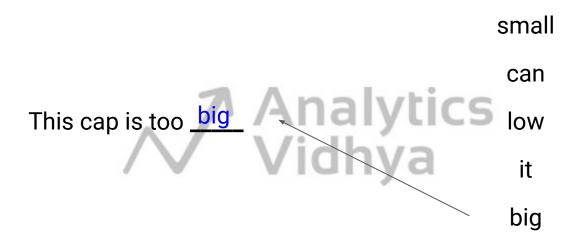


















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$$P(S) = P(w_1, w_2, w_3, ..., w_n)$$





Task of assigning probability to a sentence or a phrase

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Probability of a sentence: How likely is it to occur in natural language



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- Probability of a sentence: How likely is it to occur in natural language
- It can also be used to compute the probability of upcoming words



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$$P(W_5 | W_1, W_2, W_3, W_4)$$



Task of assigning probability to a sentence or a phrase

$$P(S) = P(w_1, w_2, w_3, ..., w_p)$$

- Probability of a sentence: How likely is it to occur in natural language
- It can also be used to compute the probability of upcoming words

$$P(W_5 | W_1, W_2, W_3, W_4)$$

A model that computes either P(S) or P(W_n | W₁, W₂, .., W_{n-1}) is called a Language Model



Applications of language modeling





Applications of language modeling

Probabilistic language models





- Applications of language modeling
- Probabilistic language models
- Evaluation of language models



- Applications of language modeling
- Probabilistic language models
- Evaluation of language models
- Project: Building a next word recommendation system





