

## What is an n-gram

An n-gram is a way to look at sentences by grouping words together in chunks of 'n'. Here, 'n' represents the number of words to group together. It's like dividing a sentence into little pieces.

## Why Use n-grams

For a computer to understand a sentence, it's important to grasp how the words connect, i.e., the context, rather than just looking at each word individually. n-grams help in understanding the context.

## n-gram Examples

Sentence: "An adorable little boy is spreading smiles"

- **Unigram (1-gram):** Look at each word individually.
- An, adorable, little, boy, is, spreading, smiles
- 
- **Bigram (2-gram):** Group the words in pairs.
- An adorable, adorable little, little boy, boy is, is spreading, spreading smiles
- 
- **Trigram (3-gram):** Group the words in threes.
- An adorable little, adorable little boy, little boy is, boy is spreading, is spreading smiles
- 
- **4-gram:** Group the words in fours.
- An adorable little boy, adorable little boy is, little boy is spreading, boy is spreading smiles
- 

## n-gram Language Model

An n-gram language model is a model that predicts what word will come next by looking at the previous n-1 words.

## Key Point:

The n-gram language model doesn't look at the entire content of the sentence; it only looks at a fixed number (n-1) of words and predicts the next word. The larger the n, the more context is considered, but the sparsity problem can become more severe.

## Why Predict So Simply

Computers lack the ability to fully understand sentences, so they need to learn by creating rules that are as simple as possible. n-grams are an effective method that can consider context while reducing the amount of computation.