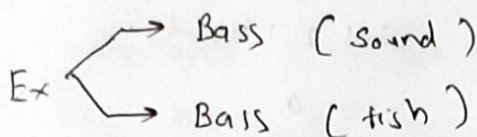


Assignment: 8

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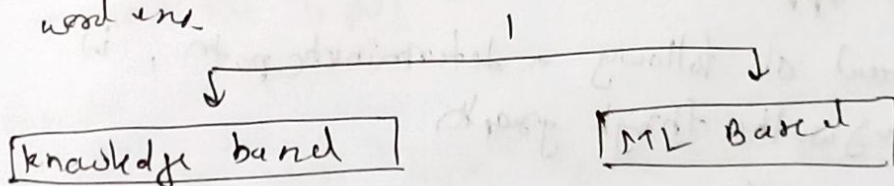
A) Word Sense Disambiguation - I



Bass is important ← we don't know what exactly this means.

Disambiguation:

- The task of disambiguation is to determine which of the sense of an ambiguous word is invoked in a particular use of the word.
- This is done by looking at the context of word use.



① Walker Algorithm

- It is a graph based approach
- It constructs a graph where nodes represent words and edges represent semantic relation
- The algorithm starts from the seed word and walks through the graph to find the most likely sense

Ex : Money in the bank fetches an interest of 8% per annum

Target : bank

Sense 1 : finance		Sense 2 : locat.	
money	+1		0
interest	+1		0
fetch	0		0
annual	+1		0
rate	3		0

② Random Walk.

- Similar to walker Algorithm, this uses a graph based approach.
- Instead of following a deterministic path, it wanders walks through graph
- The probability of choosing a particular edge is influenced by semantic similarity between the connected words.

③ Yarowsky's Algorithm

- It is a supervised learning approach that uses a bootstrapping technique.
- It starts with a small set of manually annotated examples and iteratively expands the training set by identifying new instances of target senses.

④ Decision lists

- Decision lists are a simple representation of a classical model. They consist of a list of rules, each with a condition and an associated action. The first rule that matches the input determines the classification.

Example:

- If the word "bank" appears near the words "money", "account", or "loan", then classify it as "financial".
- If the word "bank" appears near the words "near", "shore", "water", then classify it as "land".