



Vidyavardhini's College of Engineering and Technology
Department of Artificial Intelligence & Data Science

AY: 2024-25

Class:	BE.	Semester:	VII
Course Code:		Course Name:	Natural Language processing

Name of Student:	Mokshad ketan sankhu
Roll No. :	67
Assignment No.:	4
Title of Assignment:	
Date of Submission:	
Date of Correction:	

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Demonstrated knowledge	5	
Legibility	3	
Completeness and timely submission	2	
Total	10	

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Demonstrated Knowledge	5	3-4	1-2
Legibility	3	2	1
Completeness and Timely submission	2	1	0

Checked by

Name of Faculty :

Signature :

Date :

NLP Assignment 4

Q1) Perform ~~the~~ word sense induction using hyperlex for the word "Fan".

→ A Hyperlex is a lexical resource that measures how similar two words are, primarily focusing on capturing multiple meanings of words. In word sense induction (WSI), the goal is to automatically discover the various meaning a word can have based on context.

- For the word "Fan" there are multiple senses:-

1) FAN: object - A device used to generate airflow.

2) FAN: Person - An admirer or follower of something/ someone.

- To perform the word sense induction using hyperlex:

1) conceptual collection: collect multiple sentences where word "FAN" is used. The ~~fan~~ fan was blowing cool air in room (device). she is huge fan of singer.

2) word sense induction: use the context to induce the possible senses of word "FAN". Hyperlex helps to rank these senses based on their similarities to other word or phrases.

3) Implementation:- we can use hyperlex to assign similarity score between the context of "fan" in various sentences & its potential senses. The higher the similarity the more likely it is that the word is used in particular sense.

1) Lead:

- she will lead the team
- The pipes are made of lead

2) Tear:

- she had a tear in her eyes.
- I will tear the paper.

3) Bass:

- He played the bass guitar
- we caught a bass fish

- collocation constraints refers to words that often go ~~to~~ together. In homophones & homographs the meaning & usage in sentence depends on surrounding words.

- a) "Fan the flames" refers to intensifying a situation
- b) "A fan of music" would not make sense if ~~substitute~~ ^{substitute} with "a device that blows air".

Q2) Give 5 example of Homophones and homographs each with respective explanation considering collocation constraints.

→

Homophone: words that sound the same but have different meanings & ~~often~~ often different spellings

1) Bear / Bare:

- she couldn't ^{bare} ~~bear~~ the pain (Endure).
- A bear lives in forest (Animal).

2) Flour / Flower:

- I bought flour for cake.
- The garden was full of flower

3) Sea / See:

- The Sea is clam today.
- can you see the ~~sea~~ sky.

4) Hear / Here:

- I can hear the music.
- come here.

5) Sale / sail:

- The store is having a sale
- we will sail tomorrow

Homographs: words that are spelled the same but have different meaning.