Welcome

Your Lecturer for this session

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Lecture – Housekeeping

- ❏ The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly.
- ❏ No question is daft or silly - **ask them!**
- ❏ There are Q/A sessions midway and at the end of the session, should you wish to ask any follow-up questions.
- ❏ You can also submit questions here:
  hyperiondev.com/sbc4-ds-questions
- ❏ For all non-academic questions, please submit a query:
  hyperiondev.com/support
- ❏ Report a safeguarding incident:
  hyperiondev.com/safeguardreporting
- ❏ We would love your feedback on lectures:
  https://hyperionde.wufoo.com/forms/zsgv4m40ui4i0g/

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Lecture – Code Repo

Go to: github.com/HyperionDevBootcamps

Then click on the "**C4_DS_lecture_examples**" repository, do view or download the code.

Objectives

1. Understand Semantic Similarity

2. Expand our knowledge of NLP

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Semantic Similarity

- How do we tell if two things are similar?
- To extend this, how do we tell if two things are related in some way?
- For example: Cat, Monkey and Banana
  - Cat is similar to Monkey, as both are animals and mammals.
  - Monkey is related to Banana, because Monkey like Banana.
  - Cat is not strongly related to Banana, however.

Syntax for Semantic Similarity

```python
import spacy
nlp = spacy.load('en_core_web_md')

word1 = nlp("cat")
word2 = nlp("monkey")
word3 = nlp("banana")

print(word1.similarity(word2))
print(word3.similarity(word2))
print(word3.similarity(word1))
```

- "cat" + "monkey" => 0.59

- "banana" + "monkey" => 0.40

- "banana" + "cat" => 0.22

Dependency Parsing

- Dependency parsing is a technique used in natural language processing (NLP) to analyze the grammatical structure of a sentence.
- It focuses on understanding how words in a sentence depend or relate to each other
- For example, noun chunks. You can think of noun chunks as a noun plus the words describing the noun e.g., "the beautiful blue sky"

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Q & A Section

Please use this time to ask any questions relating to the topic explained, should you have any
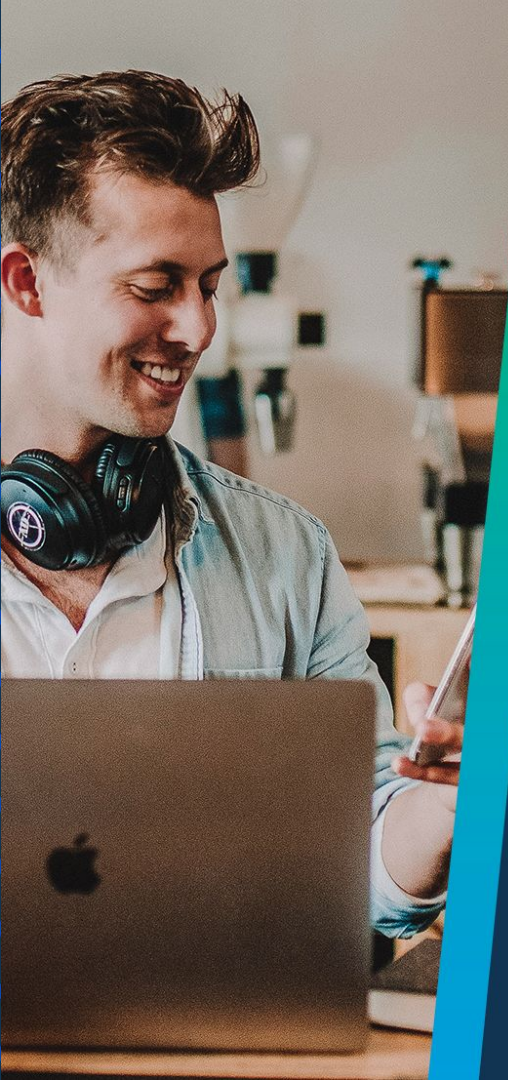
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Thank you for joining us