

CS196

Data Science

Natural Language Processing

NLP?

Huge field in CS

Multi-disciplinary:

- Artificial Intelligence
- Human-Computer Interaction
- Computational Linguistics
- Computer Science

Interaction between Computers and Human Languages

So we can't teach you guys everything...

Automatic Summarization, Machine Translation, Named Entity Recognition (NER), Sentiment Analysis, IR/IE, Natural Language Understanding, Question Answering ...

How's the weather? 



You might want sunscreen today

74°F in Manhattan

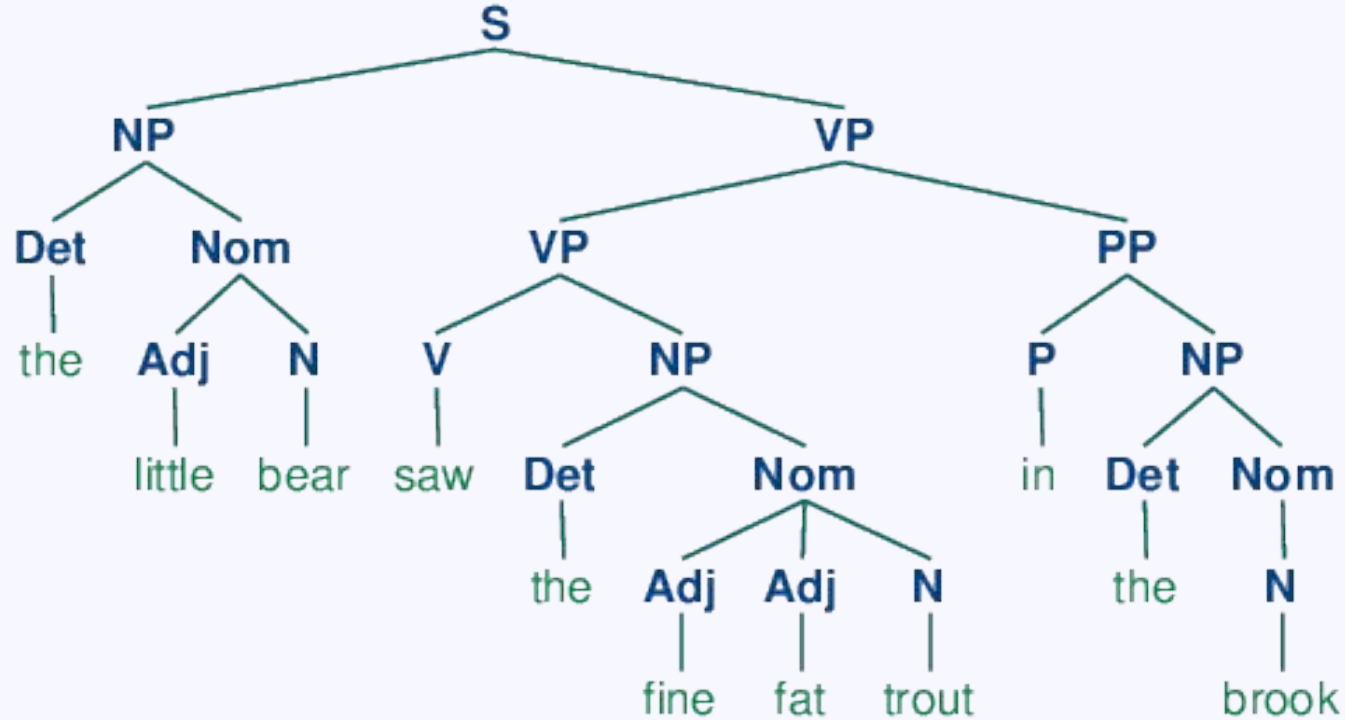
Sunny - High: 85° Low: 67°

More on [weather.com](https://www.weather.com)



Why is it hard?

- Sarcasms
- Double/Quadruple Negatives
- Complex sentence structures
- Slangs
- Literary Devices
- Different Languages
- Idioms
- Geologism
- Non-conventional grammar
- Translations
- Etc.



Techniques

- Part-of-speech tagging
- Word segmentation / Sentence breaking
- Machine Translation
- Named Entity recognition
- Sentiment Analysis
- Relationship Extraction
- Optical Character Recognition

NLTK

Um
Yeah
Its
Nice

Nltk.org
nltk.org/book

word2vec

Um
Yeah
Its
Cool

Time4Jupyter



