



AI Master Class series – Day 26

Natural Language Processing





Batch 1 & 2
Don't Forget to attend
Today's Technical
hackathon on M.L 6:00 PM



**Batch 3 & Combo
Ends in 4 Days**

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Day-26 Agenda.

01.

Evolution of Human Language

Human Language evolution

02.

NLP – NLU & NLG

Overview on NLP, NLU & NLG.

03.

NLP TERMINOLOGY

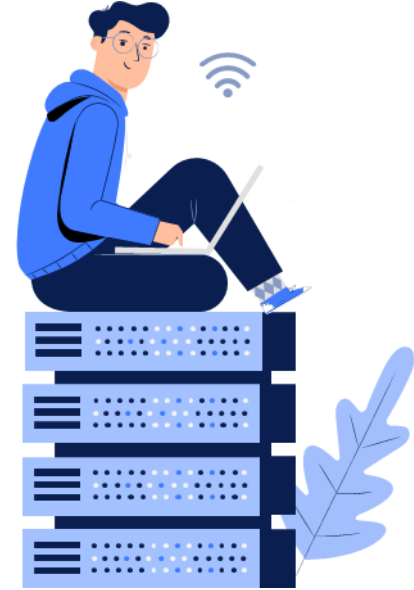
Process in NLP

04.

Q & A

Evolution of human language

- Language first appeared among Homo sapiens somewhere between 30,000 and 100,000 years ago, the secret to how language evolved is still unknown
- The idea here is that language was created to help humans survive.



Natural Language Processing

01.

NLP is a part of Computer science and Artificial Intelligence which deals Human language

02.

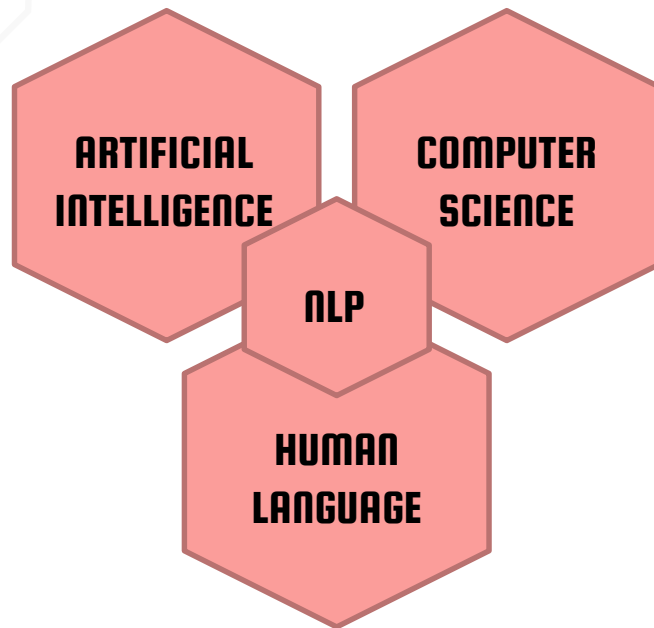
Understanding and replying the human language



TEXT MINING

TEXT MINING

Deriving meaningful information
from natural language Text



NLU & NLG



NATURAL LANGUAGE UNDERSTANDING

(NLU) is a branch of artificial intelligence (AI) that uses computer software to understand input made in the form of sentences in text or speech format.



NATURAL LANGUAGE GENERATION

Natural-language generation is a software process that transforms structured data into natural language. It can be used to produce long form content for organizations to automate custom reports, as well as produce custom content for a web or mobile



NLP Terminology

Tokenization.

Breaking strings into small individual Tokens or words

EXAMPLE

What's the time now?
to
What's
The
Time
now

Stemming.

Normalize words into its base form or its root form

EXAMPLE


**Playing , played, plays
to
play**

Lemmatization.

Grouping different inflected form of word called Lemma

Similar to Stemming, but returns perfect word

EXAMPLE



Better, super
to
Good

POS — parts of speech.

The most popular POS tagging would be identifying words as nouns, verbs, adjectives, etc.

EXAMPLE

**Google about pantech
solutions**

Google may be noun/Verb

Named entity recognition.

Recognizing the words as
movie, monetary values,
organization, location, quantity
or person.

EXAMPLE

**Google about pantech
solutions**

**Google – verb
Pantech solutions –
organization**

Chunking.

Picking pieces of words and
form into phrases

EXAMPLE

**Google
About
Pantech
Solutions
to
Google about pantech
solutions**



NLTK — NATURAL LANGUAGE TOOLKIT



The Natural Language Toolkit, or more commonly NLTK, is a suite of libraries and programs for symbolic and statistical natural language processing for English written in the Python programming language.

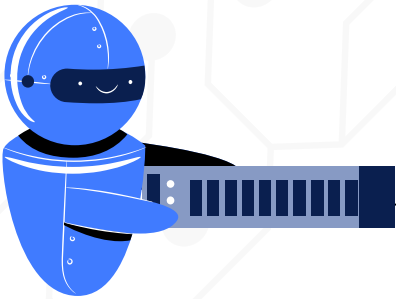


Applications of NLP

01

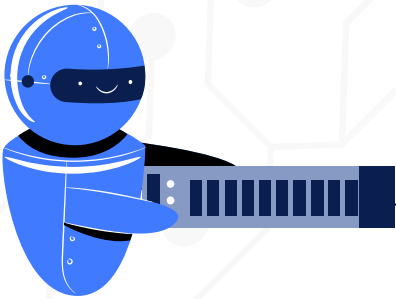
SENTIMENTAL ANALYSIS

**Identifying the message emotions,
like Good, normal or bad**



02 CHATBOT

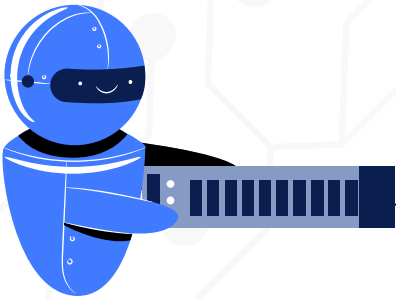
**Automatic messaging, like Hike
Natasha**



03

SPEECH RECOGNITION

**Voice assistant device such as
Google Home, Amazon Alexa, etc.**



04

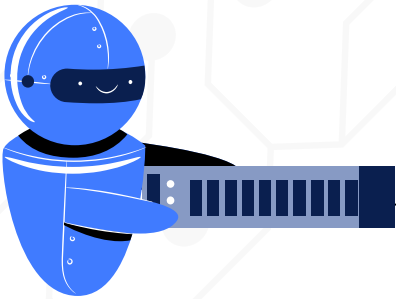
MACHINE TRANSLATION

**Google Translate, Translating
device.**



05 SPELL CHECK

**Automatic spell check & Correction
like Grammarly**



06

KEYWORD SEARCH

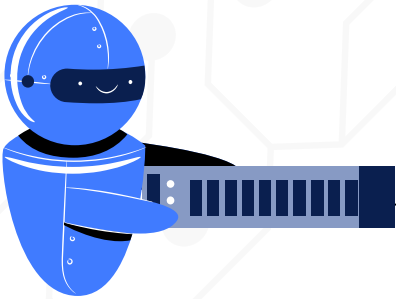
Google keyword search and Search Engine Optimization



07

EXTRACT INFORMATION

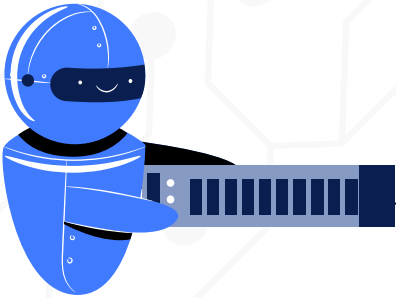
**Search Engine suggestion and
Translation**



08

ADVERTISEMENT MATCHING

**Showing ad's based on the search
interest of users**



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Tomorrow session

Title Formation from Paragraph

