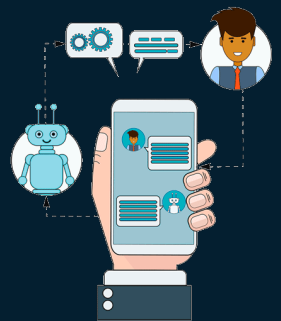
Natural Language Processing: Chatbots



Need someone to talk to?

Perfect for all Engineers!

Let’s create a chatbot to solve this problem!

But seriously, why a chatbot?

Personalized Experience

- Conversational User Interface
- Specific to User's Needs
- Integration with your Social Media Apps

Revenue-Generator

- Customer Service
- Advertising
- Seamless Customer Experience

Let's Build A

FAQ Chatbot

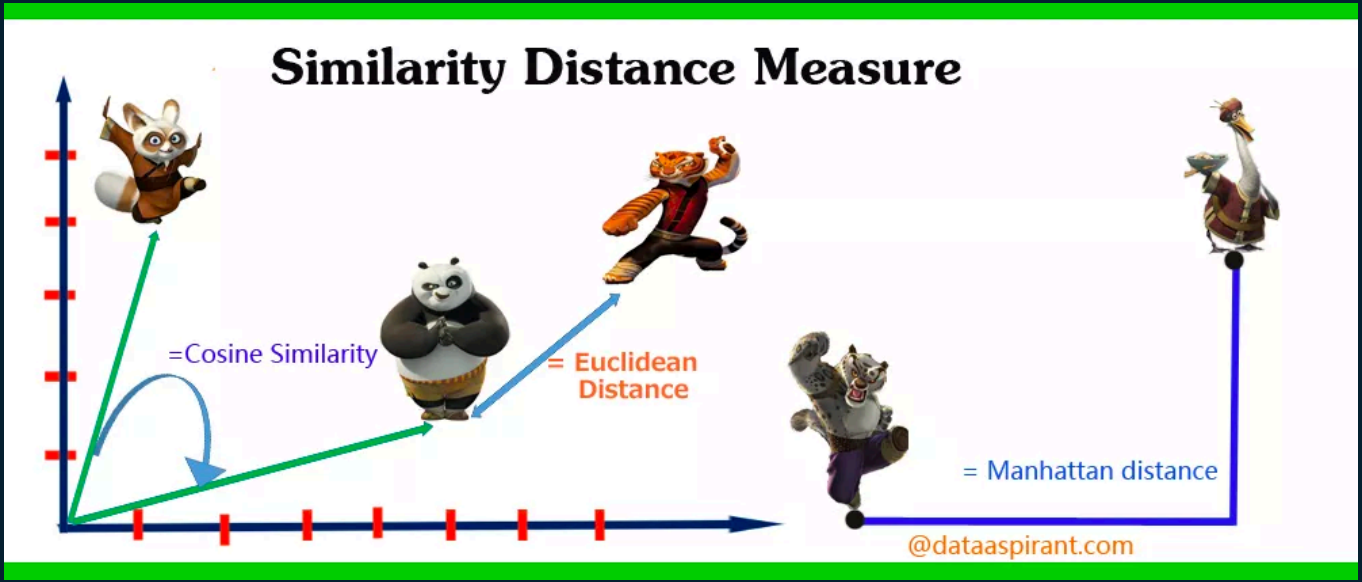
Because everyone shops for a car at some point.

Pre-Processing Data

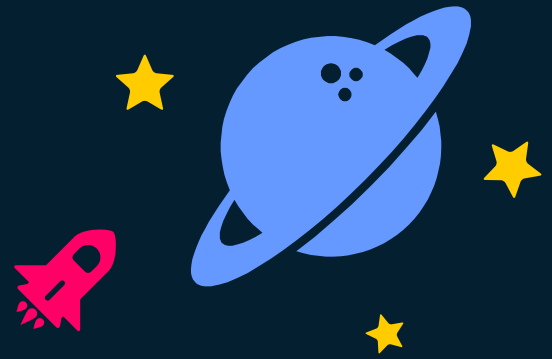
Tokenization → Case-Folding → Lemmatization

Training and Running the Chatbot

Similarity


Similarity Distance Measure
=Cosine Similarity
= Euclidean Distance
= Manhattan distance
@dataaspirant.com

LET'S TRY IT



Why would I give a presentation about a chatbot without talking to it?

Conclusions

Cosine Similarity is Key, But Not the Best

As we saw, Euclidean distance is a terrible way to compute a response for a chatbot, but cosine similarity is for WORDS, not entire sentences. We should use a BLEU score in a sentence-based case.

Deep Learning is Where It's At

Simple mathematical methods such as cosine similarity will build a basic QA chatbot. However, with deep learning, we can have an agent keep track of context, information, and different types of data to return a human-like response.