

Natural Language Processing

Natural Language Processing

Introduction

- Field of AI with focus on computers to understand, interpret, and generate human language
- Involves algorithms, usually Deep Learning, to analyze and manipulate text and speech
- Can extract meaningful insights from large amounts of unstructured text data, like social media posts, customer reviews
- Wide range of applications
 - Chatbots
 - Sentiment analysis
 - Translation
 - Speech recognition



Natural Language Processing

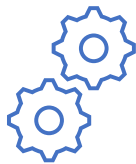
NLP Model Tasks

Input Text

Neural Network

Prediction

„I like this book so much
I cannot “



„put it down“

next words

+5.0

sentiment

„a positive book
review“

Text
summarization

„Ich mag dieses
Buch so sehr, dass ich es
nicht aus der Hand legen
Kann.“

Translation

Natural Language Processing


NLP Model Tasks

Input Text

„I like this book so much
I cannot “

Word Embedding

(usually also based
on Neural Network)



0	1	1	0
1	0		1
		...	
	0		1

Neural Network



Prediction

...

Text is converted to
numerical representation.

Neural Networks can only con
sume numbers, not text!

Natural Language Processing

Vocabulary

