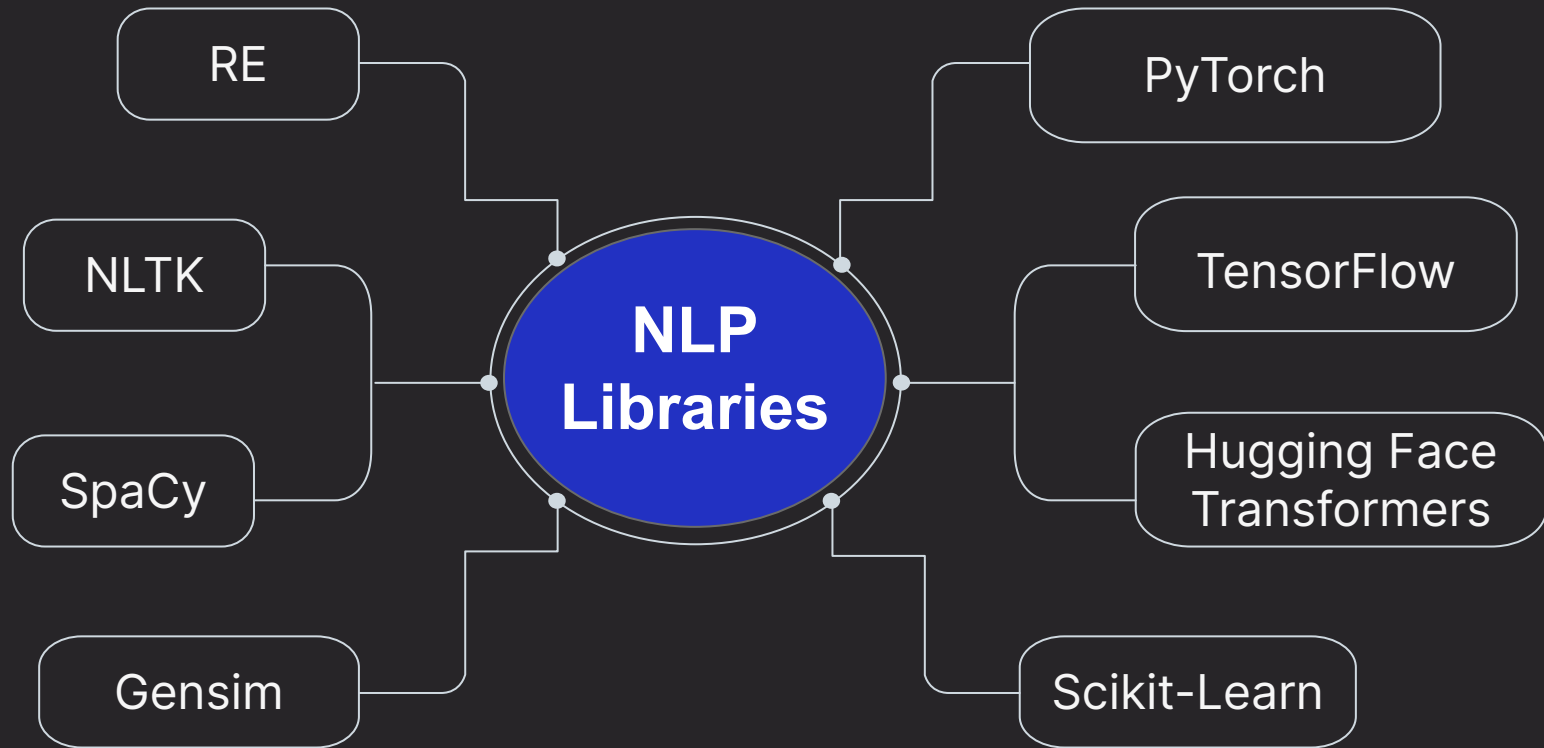


The background of the slide is a dark gray to black gradient, overlaid with a complex, abstract network of white lines and dots. These dots, representing nodes, vary in size and are interconnected by thin, light gray lines, creating a web-like structure that spans the entire frame. The density of the network is higher in the upper and right portions of the image.

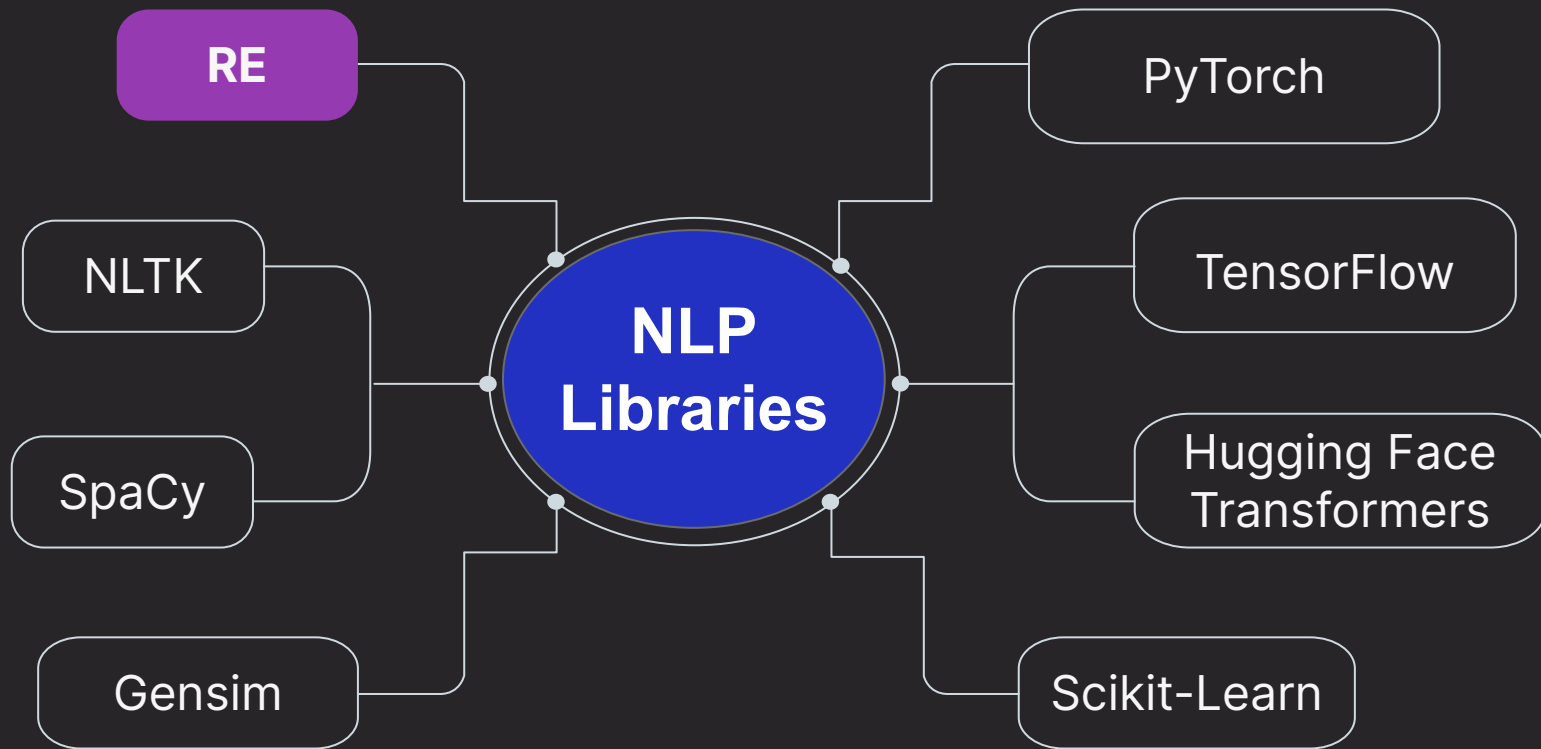
Introduction to NLP

Video 3 : NLP Libraries

NLP Libraries



NLP Libraries



1. Regular Expression (RE)

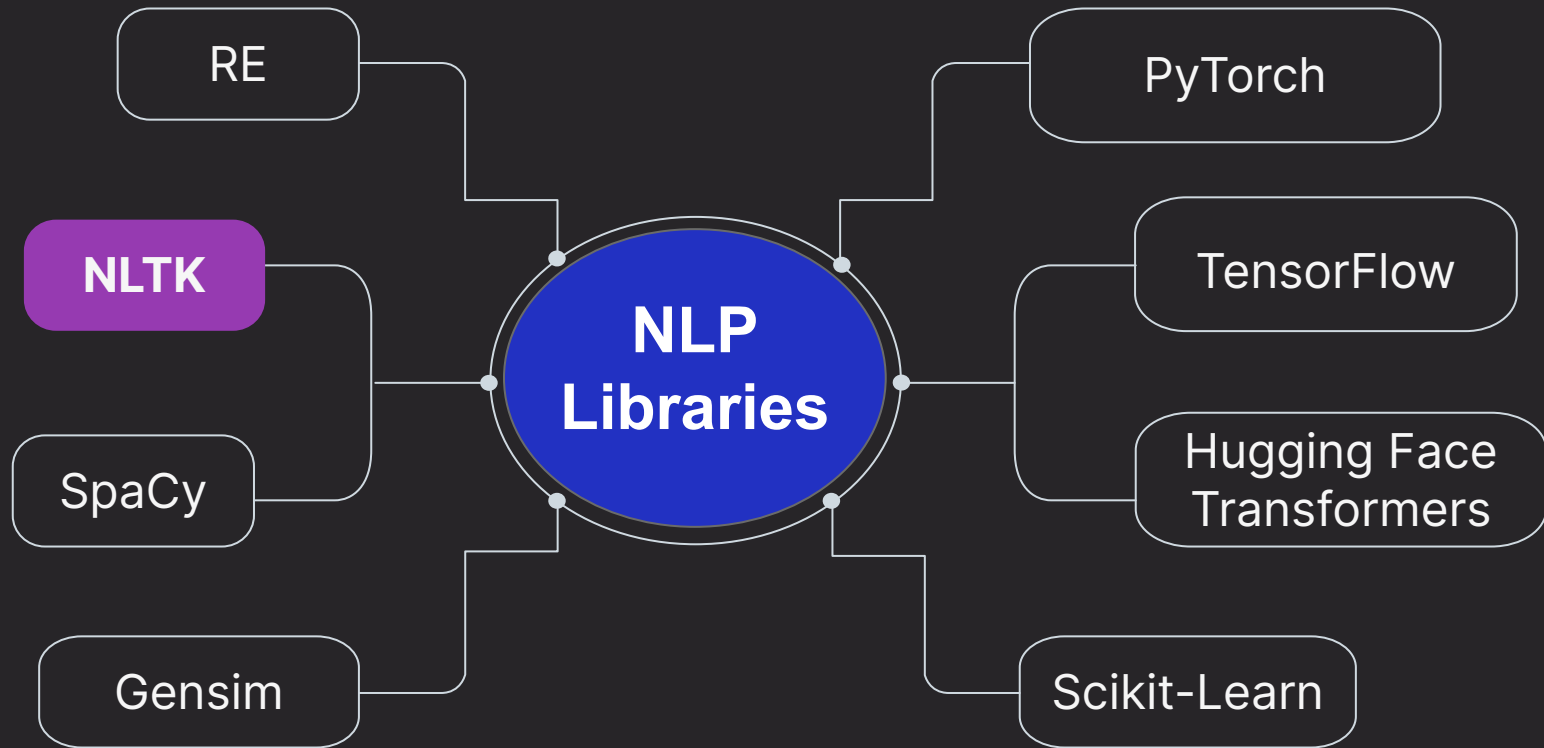


Regular Expressions

Language-agnostic standard for **processing** and **manipulating text**

Used in tasks like **searching**, **replacing** and **parsing text data**

NLP Libraries



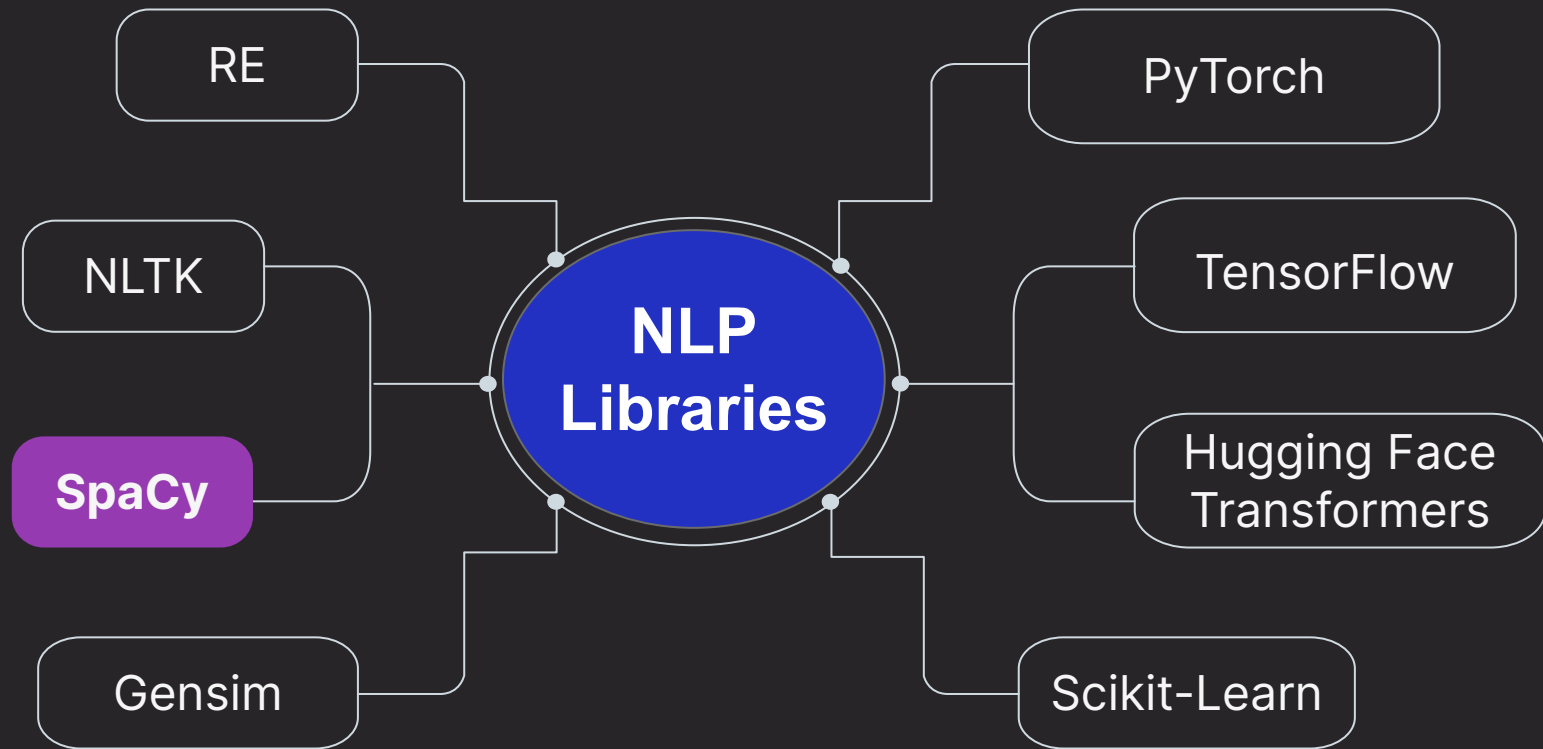
2. NLTK



Works with **human language data**

Tools for **tokenization, stemming, tagging classification**

NLP Libraries



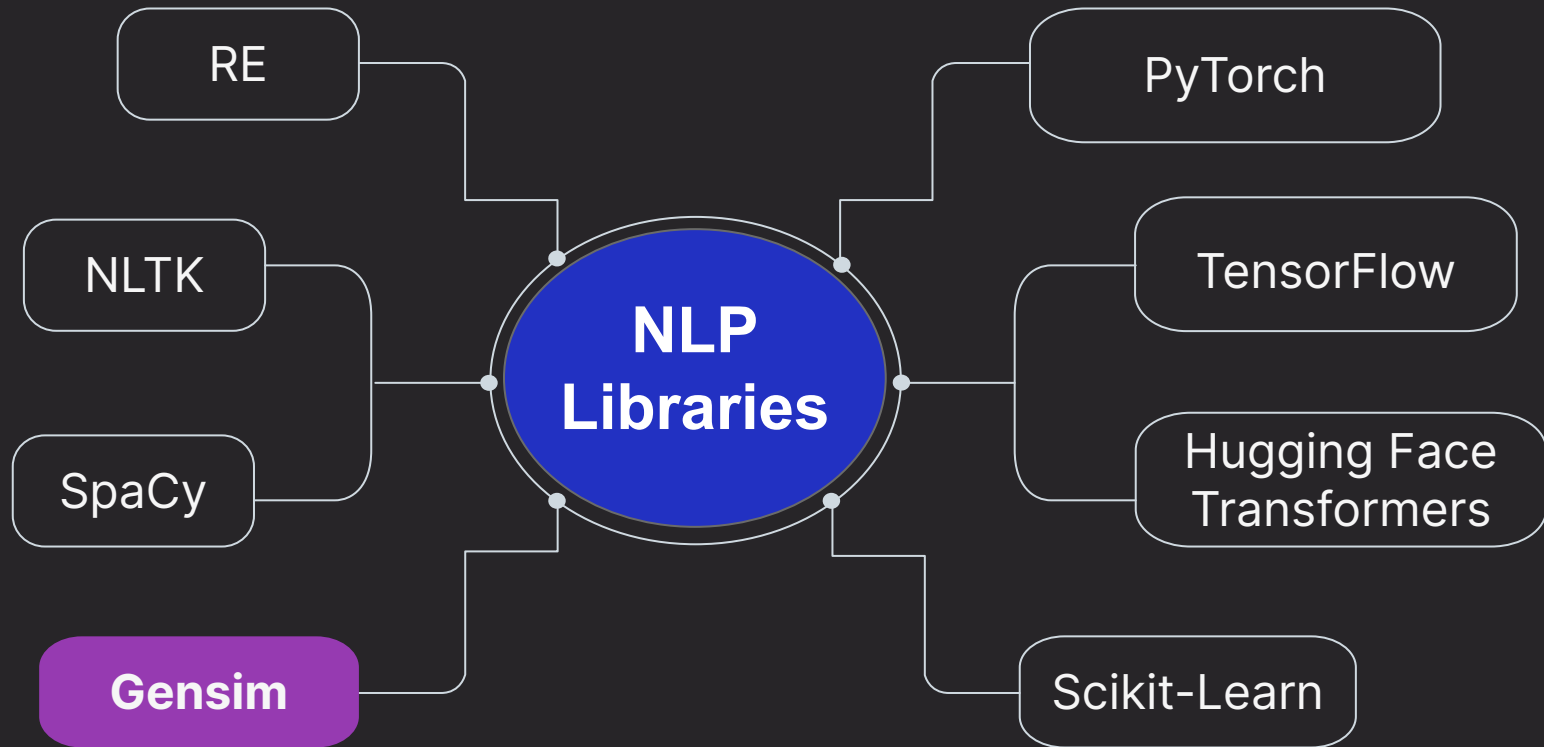
3. SpaCy



Designed for features like **Named entity recognition, part-of-speech tagging**

Library of **pre-trained models** for **several languages.**

NLP Libraries



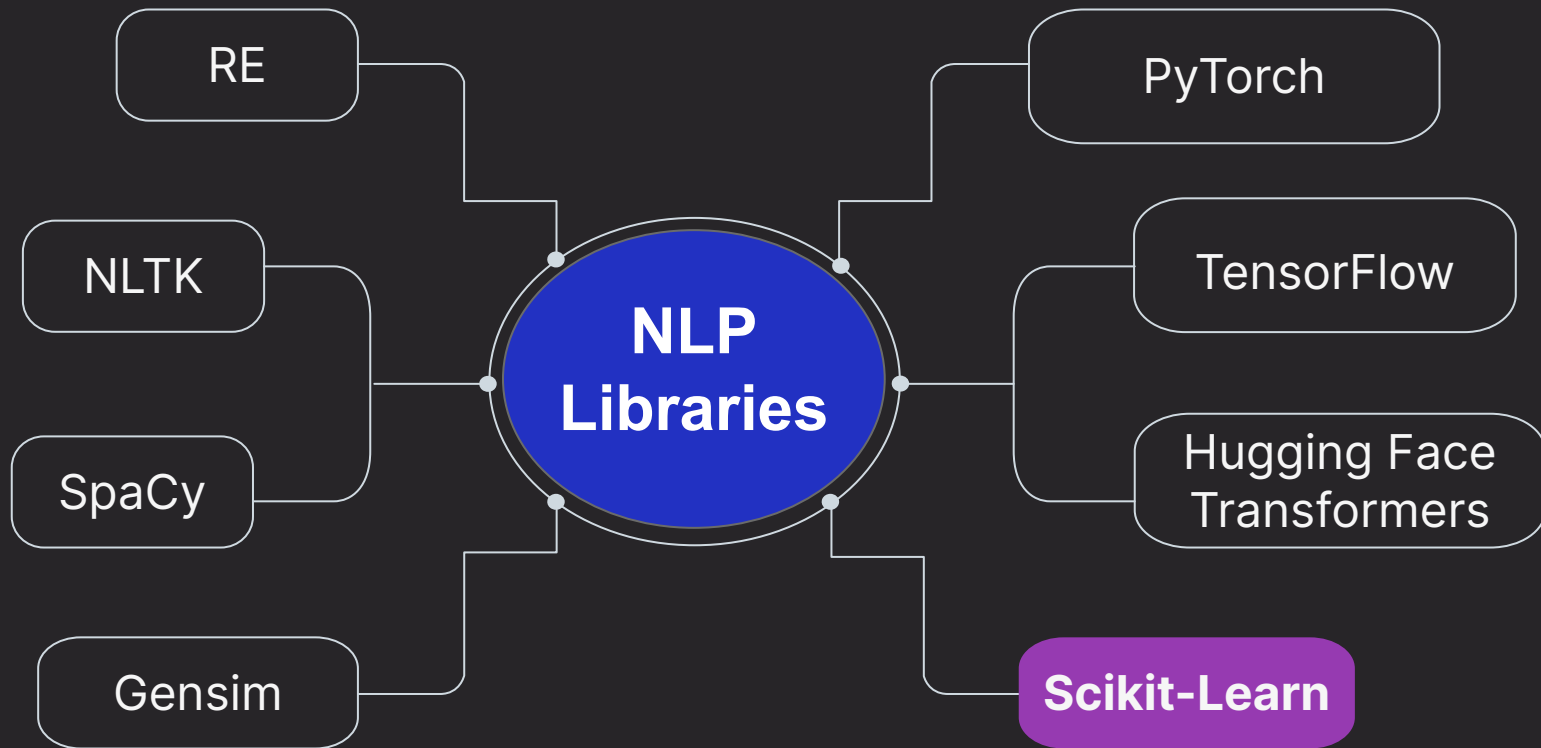
4. Gensim



Task like **topic modeling**, **document indexing** and **similarity retrieval**

Word embedding to capture semantic relationships

NLP Libraries

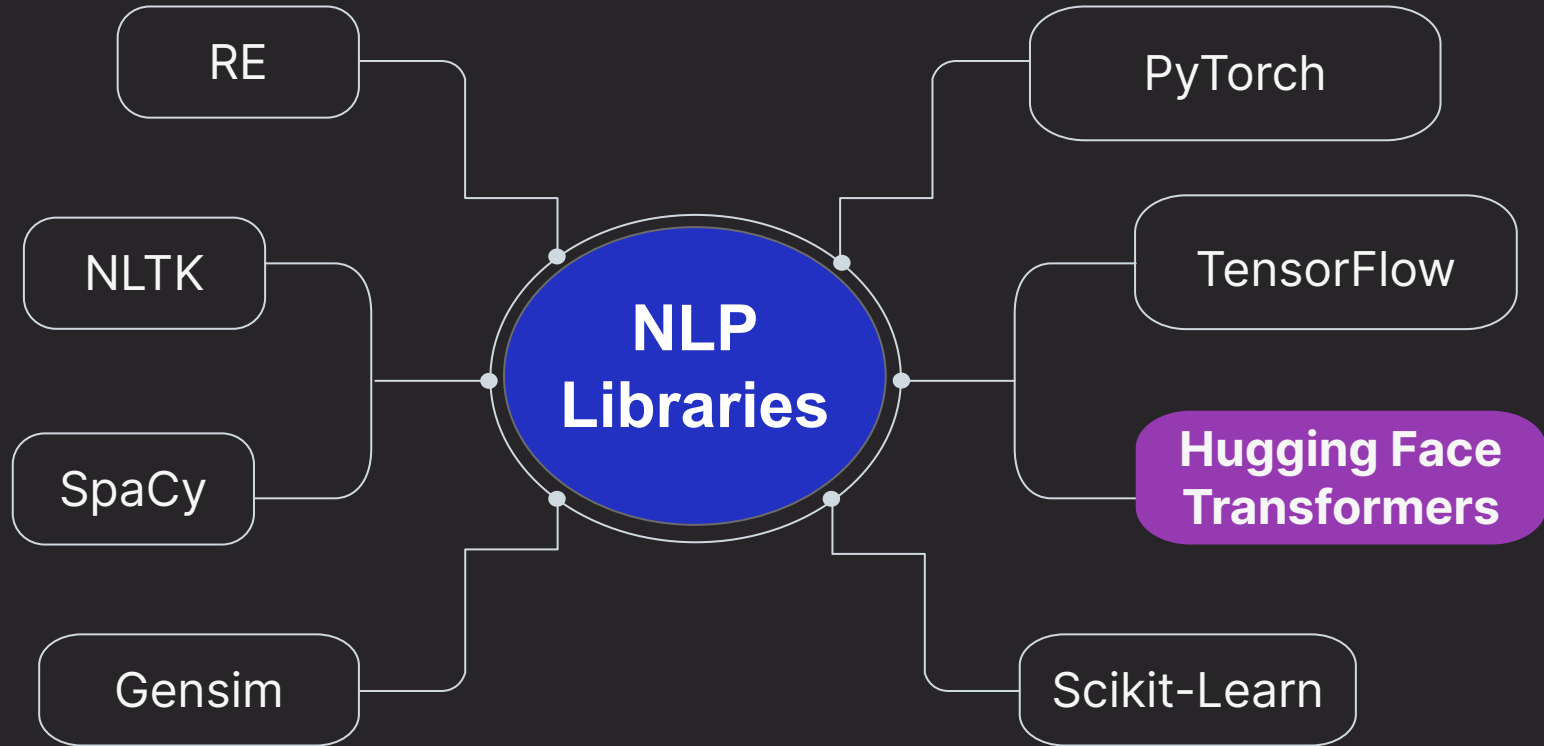


5. Scikit-Learn



Tools for machine learning and statistical modeling including **classification, regression, clustering** and **text analysis**

NLP Libraries



6. Hugging Face Transformers

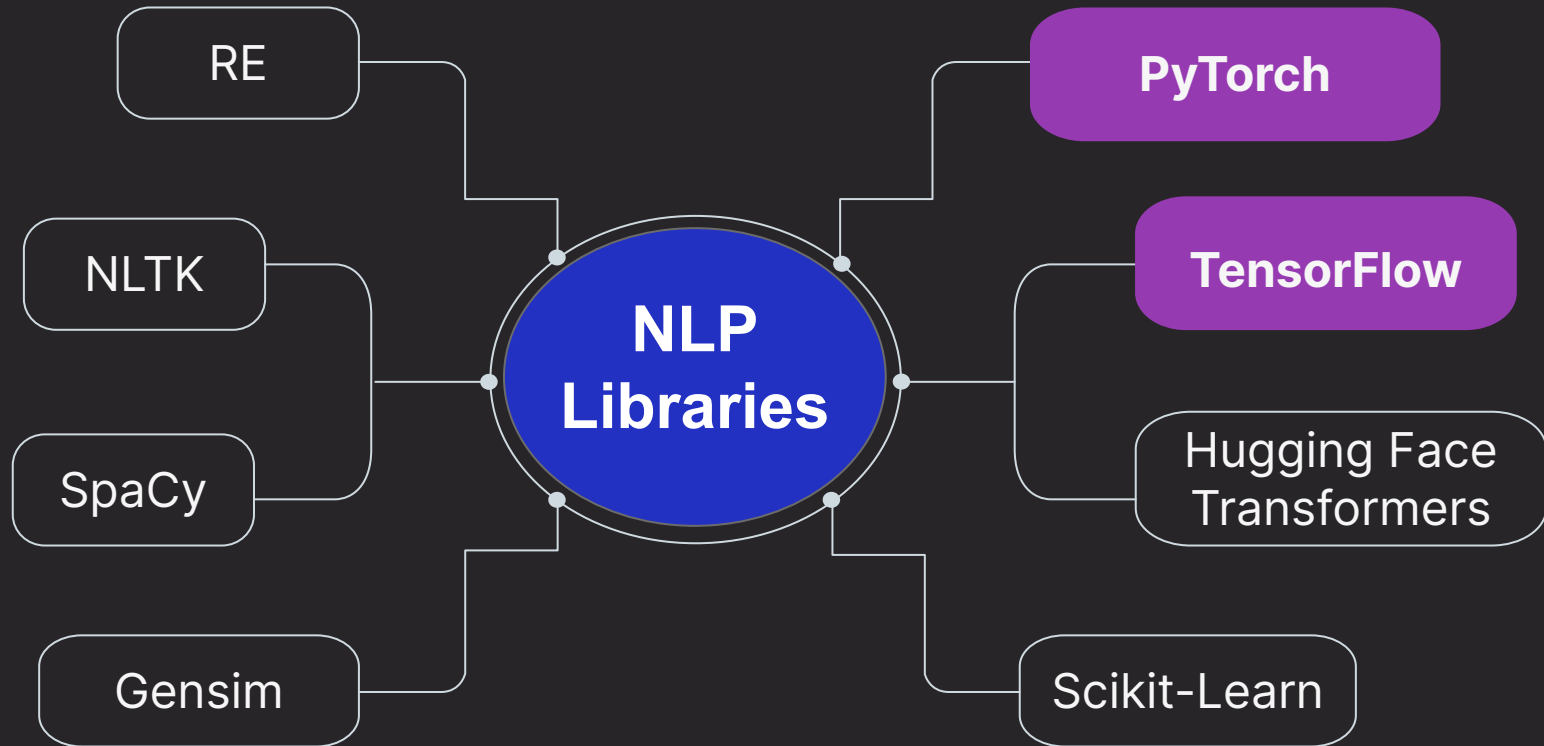


HUGGING FACE

Focus on deep learning-based transformer models like **BERT and GPT**

Various tools for **NLP tasks**

NLP Libraries



7. TensorFlow and PyTorch



TensorFlow

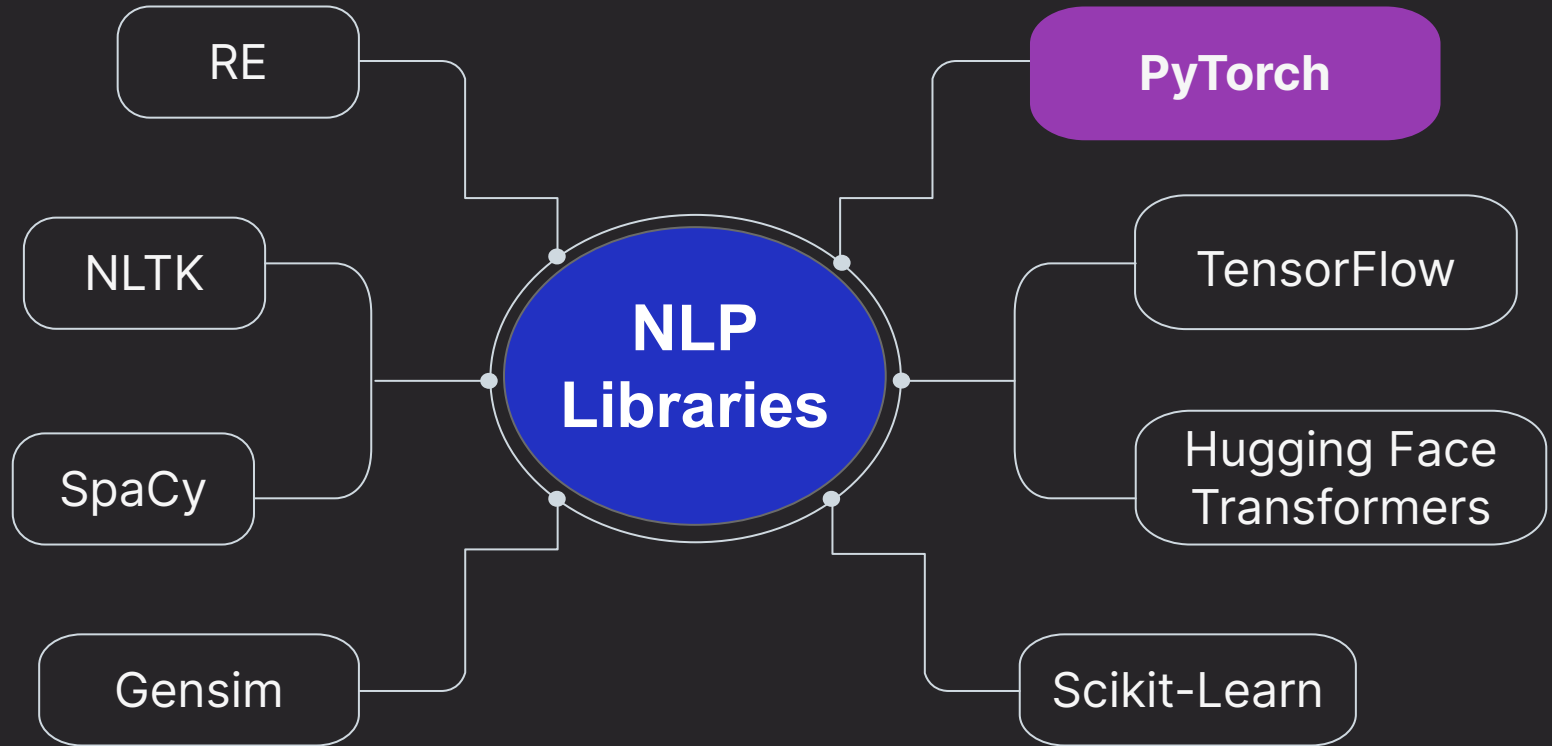
Provide a robust ecosystem for **NLP tasks** and **text data preprocessing**



PyTorch

Offers various utilities and modules for **common NLP tasks**

NLP Libraries



NLP Libraries	Common Preprocessing	Advanced Preprocessing Techniques			
		NER	Word Embedding	Pre-Trained models	Building Deep learning models
RE	<input checked="" type="checkbox"/>				
NLTK	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
SpaCy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Gensim	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
Scikit- Learn	<input checked="" type="checkbox"/>				
Hugging Face Transformer	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
TensorFlow	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PyTorch	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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TensorFlow	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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