

Named Entity Recognition (NER) with Natural Language Processing (NLP)

Welcome to the Named Entity Recognition (NER) project! This repository contains various resources and examples for performing NER using different NLP libraries and approaches. The project includes a comprehensive PDF guide, Python code samples, and specific implementations using Hugging Face Transformers and PDF files.

Project Structure

- [Entity Extraction \(NER\) with Natural Language Processing \(NLP\).pdf](#) A detailed PDF document explaining Named Entity Recognition (NER) with NLP, including techniques, importance, and applications.
- [Entity extraction with NER.ipynb](#)/: A directory containing Python code samples for performing NER using various NLP libraries.
 - Python code sample for NER using spaCy.
 - Python code sample for NER using NLTK.
 - Python code sample for NER using Gensim (Note: Gensim is not typically used for NER directly, so this will include topic modeling as a related task).
 - Python code sample for NER using Stanford NLP.
 - Python code sample for NER using Flair.
- [HuggingFace NER sample.ipynb](#) A Python file demonstrating entity extraction using Hugging Face Transformers.
- [Resume NER Extraction.ipynb](#): A Python file for performing NER on PDF files.

Getting Started

Prerequisites

Ensure you have Python installed on your system. The code samples require various Python packages, which can be installed using pip.

bash

Copy code

```
pip install spacy
pip install nltk
pip install gensim
pip install stanza
pip install flair
```

```
pip install transformers
pip install PyMuPDF
pip install pdfminer.six
```

Contents

[Entity Extraction \(NER\) with Natural Language Processing \(NLP\).pdf](#)

A comprehensive guide explaining:

- The importance of NER in NLP.
- Techniques for entity extraction.
- Applications of NER.
- Detailed explanations suitable for both technical and non-technical audiences.

code_samples/

Python code samples showcasing how to perform NER using different NLP libraries. Each file contains comments and explanations for clarity.

huggingface_entity_extraction

A Python script demonstrating how to use Hugging Face Transformers for entity extraction. It includes loading a pre-trained model, tokenizing text, and extracting entities.

Pdf_entity_extraction

A Python script for performing NER on PDF files. It demonstrates how to extract text from a PDF and then apply NER techniques to identify entities within the text.

Contributing

We welcome contributions to this project. If you have any improvements or additional features you would like to add, please fork the repository and create a pull request.

License

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Acknowledgments

Special thanks to the developers of spaCy, NLTK, Gensim, Stanford NLP, Flair, and Hugging Face for their amazing libraries and contributions to the NLP community.