



Characters:6214 Words:981

Sentences:63 Speak Time:
8 Min

Excluded URL

None

Content Checked for Plagiarism

The aim of our proposed work is to develop a comprehensive language translation and summarization system that goes beyond existing tools in the market. Our system will allow users to upload images or input text, detect the language of the text, and provide translation and summarization in the language of their choice. Our system will use OCR technology to detect text from images, which will provide users with the convenience of uploading images of texts instead of manually inputting the text. We will create a website with a proper frontend and a friendly UI to ensure ease of use for users. One of the unique features of our system is that it will not only translate the text but also provide a summarization of the content. Our system will use an NLP model to summarise text from various languages, which will be a significant advantage for users who need to read and understand content from different parts of the world. Moreover, our system's summarization feature will save users time, making it easier for them to navigate through large paragraphs or documents, providing a quick overview of the content. We aim to develop a system that provides users with a seamless and efficient experience, allowing them to choose which steps they want to skip. Our system will cater to the diverse language needs of users by allowing them to translate and summarise text from different languages. Furthermore, our system will go beyond existing tools by summarising content from languages other than English. Ultimately, our proposed work aims to eliminate language barriers and provide a comprehensive language translation and summarization tool accessible to all. Unlike existing tools that offer either translation or summarization, our platform aims to provide both capabilities in a single system. Our system is designed to allow users to input text or upload images, which will be processed using OCR technology to extract the text. We will create a user-friendly website with a proper frontend and a friendly UI that offers all these options for ease of use. Once the text is identified, our system will automatically detect the language of the text. Users will be able to select their desired target language for translation and summarization. Our system will then use NLP models powered by the Natural Language Toolkit (NLTK) to translate the text into the selected language and generate a concise summary of its content. However, our platform will offer multi-lingual support and the ability to summarise text in languages other than English. .Introduction: Our project aims to create a comprehensive language processing system that integrates OCR, NLP, text translation, text

summarization, corpora, and flask. These technologies enable the system to extract text from images, identify the language of the text, translate it to the desired language, and generate a concise summary of the text's content. In this section, we will provide a detailed explanation of each of these technologies and how they will be used in our project. OCR: OCR, or Optical Character Recognition, is a technology that enables computers to recognize text within an image and convert it into machine-readable text. OCR technology plays a critical role in text extraction from images, which is a key component of many language processing systems. In our project, we will be using EasyOCR, an open-source OCR library that supports over 70 languages, including English, Chinese, Japanese, and many more. EasyOCR is an ideal choice for our project because it is fast, accurate, and easy to use. Additionally, it has a small footprint, making it well-suited for use in web applications. NLP: NLP, or Natural Language Processing, is a subfield of artificial intelligence that deals with the interaction between computers and human language. NLP techniques involve processing large amounts of natural language data, analysing it for patterns, and developing algorithms that enable computers to understand, interpret, and generate human language. In our project, we will be using NLP techniques to identify the language of the text, translate it to the desired language, and generate a concise summary of the text's content. We will be using the Natural Language Toolkit (NLTK), an opensource NLP library for Python. NLTK provides a wide range of tools for processing natural language data, including tokenization, stemming, and part-of-speech tagging. Text Translation: Text translation is the process of converting text from one language to another. In our project, we will be using machine translation, which is the use of computer algorithms to translate text between languages. We will be using the Google Cloud Translation API, which provides fast and accurate translation between over 100 languages. Text Summarization: Text summarization is the process of generating a concise summary of a lengthy text. In our project, we will be using extractive summarization, which involves identifying the most important sentences in the text and generating a summary based on these sentences. We will be using the TextRank algorithm, which is a graph-based ranking algorithm that identifies the most important sentences in the text based on their similarity to other sentences in the text. Corpora: In the context of natural language processing (NLP), a corpus refers to a large collection of written or spoken text that has been gathered and stored for analysis and research. Corpora are used to study language patterns, develop and train machine learning algorithms, and test the accuracy and effectiveness of NLP models. They can be monolingual, containing text in a single language, or multilingual, containing text in multiple languages. Corpora can also be annotated with additional information such as part-of-speech tags, named entity tags, and sentiment labels, to further enhance the analysis and understanding of the text. Flask: Flask is a lightweight web application framework for Python. In our project, we will be using Flask to create a user-friendly interface for our language processing system. Flask provides a simple and easy-to-use

framework for building web applications, making it an ideal choice for our project.

Sources

2% Plagiarized

Web \cdot OCR, or Optical Character Recognition, is a technology that enables computers to recognize text within digital images of documents. It is a crucial tool for ...

https://www.bing.com/ck/a?!&&p=e95f500e627ae3c0JmltdHM9MTY4NDM2OD

AwMCZpZ3VpZD0xNjBjZjVjYi01MjU3LTY0YmUtMDFhNi1lNmRkNTM0NTY1MT

UmaW5zaWQ9NTI1Mg&ptn=3&hsh=3&fclid=160cf5cb-5257-64be-01a6e6dd53456515&u=a1aHR0cHM6Ly9rbDFwLmNvbS9tYXN0ZXltdGhlLWFydC1vZ
illeHRyYWN0aW5nLWRhdGEtZnJvbS1wZGZzLXdpdGgtcHl0aG9uLW9jci1hbm

QtZGF0YWZyYW1lLXBsdXMtY29kZS1leGFtcGxlcy1mb3ltYmVzdC1yZXN1bHRzL
w&ntb=1

2% Plagiarized

The main goal of NLP is to enable computers to understand, interpret, and generate human language. NLP is used in a wide range of applications, including ...Computer Vision (CV): A subfield of Al that involves developing algorithms and techniques to enable machines to interpret and understand visual information ...

https://databasetown.com/subsets-of-artificial-intelligence

2% Plagiarized

Aug 8, 2021 — Flask is a lightweight web application framework for Python, designed to make getting started quick and easy, with the ability to scale up ...

https://fawnoos.com/2021/08/08/cas64x-python-flask-integration



Home Blog Testimonials About Us Privacy Policy

Copyright © 2022 <u>Plagiarism Detector</u>. All right reserved



In this digital era, the demand for language translation, text extraction from





Characters:6844

Words:953

Sentences:67

Speak Time: 8 Min

Excluded URL

None

Content Checked for Plagiarism

images, and text summarization has grown significantly. To address these needs, we present our proposed system architecture and design, which not only incorporates these essential functionalities but also provides an enhanced user experience through a step-by-step and user-friendly approach. Our system aims to go beyond the conventional capabilities by offering a unique feature: text summarization in the user's preferred language. We understand the challenges individuals face when encountering lengthy paragraphs or documents, where a concise summary can save time and accommodate their busy schedules. With our platform, users can effortlessly input text or upload an image containing text in any language of their choice. They are then empowered to select their desired target language for translation and request a summary of the text's content, all with the support of cutting-edge Natural Language Processing (NLP) techniques and corpora. To ensure a seamless and efficient user experience, we have designed a proper website with a sleek and intuitive user interface. Leveraging Flask technology, our architecture offers a robust and scalable solution, capable of handling diverse language needs. Users have the flexibility to choose which steps they want to engage with, allowing them to skip unnecessary processes and customise their experience according to their requirements. Our system architecture encompasses three core functionalities: language translation, text extraction from images, and text summarization. By integrating state-of-the-art NLP algorithms and corpora, we empower users to overcome language barriers and information overload. Whether it's translating text from one language to another, extracting text from images to make it accessible and editable, or generating concise summaries of extensive content, our project provides a comprehensive solution. With our proposed system architecture and design, we aim to revolutionise language-related tasks and empower users with a seamless and accessible solution. By making language translation and summarization easy and efficient, we enable individuals to effectively navigate through multilingual content, save time, and make informed decisions. Say goodbye to language barriers and information overload – our system is designed to enhance the language experience for all users. Our proposed system is designed to be a standalone product that addresses the growing demand for language translation, text extraction from images, and text summarization. It

provides a comprehensive solution within a single platform, eliminating the need for users to rely on multiple separate applications or services. From a broader perspective, our product fits into the larger landscape of language processing and information management tools. It leverages cutting-edge Natural Language Processing (NLP) techniques and corpora to deliver accurate translations, efficient text extraction, and concise summaries. However, unlike traditional language processing tools that focus on specific aspects such as translation or extraction, our system integrates all these functionalities into a unified and user-friendly experience. Our product aims to cater to a wide range of users, including individuals, professionals, researchers, and businesses. It provides an accessible and efficient means of handling multilingual content, enabling users to overcome language barriers and information overload. By offering a step-by-step and customizable approach, users have the flexibility to choose which functionalities they require, allowing them to tailor their experience according to their specific needs. In terms of integration, our system is designed to be seamlessly integrated into existing platforms or websites. It can serve as a valuable addon feature for applications that deal with content management, translation services, or information extraction. Additionally, our system can be deployed as a standalone web application, providing users with a dedicated platform for their language-related tasks. Considering the competitive landscape, our product differentiates itself by offering text summarization alongside language translation and text extraction. This unique feature sets us apart and positions our system as a comprehensive solution for users who seek both translation and summarization capabilities. Overall, our proposed system stands as an innovative and user-centric product within the domain of language processing and information management. By combining multiple functionalities into a single platform, we aim to provide users with a streamlined experience that simplifies their language-related tasks and enhances their overall productivity.1. Language Translation: Our system provides robust language translation capabilities, allowing users to translate text from one language to another. Users can input text directly or upload images containing text for translation. The system supports a wide range of languages, enabling seamless communication and understanding across language barriers. 2. Text Extraction from Images and documents: Users can easily extract text from images by uploading the image file. The system utilizes Optical Character Recognition (OCR) technology to recognize and extract the text, making it editable and translatable. This feature is particularly useful when dealing with documents, signs, or any image containing textual information. 3. Text Summarization: Our system offers text summarization functionality, allowing users to obtain concise summaries of lengthy paragraphs or documents. This feature saves time and helps users quickly grasp the main points and essential information within a large body of text. Users can select their desired summary length or specify the level of detail required. 4. Multilingual Support: The system supports a wide range of languages, enabling users to work with content in their preferred language. Users can translate, extract, and summarize text in various languages,

catering to their specific language needs. This feature facilitates cross-lingual communication and information processing. 5. User-Friendly Interface: The system features a sleek and intuitive user interface, designed to provide a seamless and user-friendly experience. The interface allows users to easily navigate through different functionalities, input their text or upload images, select target languages, and customize options according to their preferences. 6. Step-by-Step Process: Our system offers a step-by-step approach, allowing users to choose which functionalities they want to utilize. Users can skip certain steps based on their requirements, providing flexibility and efficiency in handling their language-related tasks

Sources



Home Blog Testimonials About Us Privacy Policy

Copyright © 2022 <u>Plagiarism Detector</u>. All right reserved





Characters:6450 Words:991 Speak Time: Sentences:50 8 Min

Excluded URL

None

Content Checked for Plagiarism

First the user has to give an input. The input can either be a text, image with text or a pdf file. Once given, the user has to select the input language (specifically for the OCR model) and select if they want to translate and summarise the text with the help of radio buttons on the web-page. If the person wishes to translate, on clicking the check box, the option for language opens up where the user can select the language they want out of 7 languages that we offer (English, Spanish, French, Arabic, Chinese, Tamil, Hindi). On clicking Go!, the file is downloaded on the user's device. Methodology: Our code is designed to handle three different types of inputs: PDF files, text input, and images (in PNG or JPEG format). It performs three main tasks: text extraction, translation, and summarization. For text extraction, we utilise easyOCR, a Python library that supports the reading of 35 to 40 languages. We have incorporated languages like Tamil, Hindi, French, Spanish, Chinese, and Arabic. Based on the input language, the OCR model selects the appropriate reader and extracts the text from the provided PDF or image. The translation task employs the Google API to translate the extracted text into a different language or the user's preferred language. Initially, the API had a character limit of 500, but we have made adjustments to remove this limitation to accommodate PDF files with thousands of words. The translation model preserves names and proper nouns while translating only the sentences as required. The final and crucial part is text summarization. The code takes the English input file and applies natural language processing techniques such as tokenization and lemmatization. Using an English corpus from our NLP model dataset, the code summarises the text. Additionally, we offer the flexibility for the user to select the desired number of summary lines, allowing for customization. In the final stages, the code converts the output into a text file and saves it to the desired location on the system. We are also developing a website where all these functionalities will be hosted. Along with the aforementioned features, users will have access to a dashboard upon logging in. They can save the summarised/translated files on the website by simply checking a checkbox. EasyOCR is an open-source optical character recognition (OCR) library that is designed to extract text from images. It provides a simple and user-friendly interface for performing text extraction tasks using deep learning models. EasyOCR is built on top of the PyTorch framework and leverages pre-trained models to recognize text in various languages. Here is a detailed overview of the architecture and working of

EasyOCR: 1. Image Input: EasyOCR takes an image as input, which can be in various formats such as JPEG, PNG, or TIFF. The image can contain text in different languages and fonts. 2. Pre-processing: Before performing OCR, EasyOCR applies some pre-processing steps on the input image. This may include resizing, normalization, noise reduction, and enhancing image quality to improve the accuracy of text recognition. 3. Text Detection: EasyOCR utilizes a text detection algorithm to locate regions of interest in the image where text is present. The goal is to identify bounding boxes around text regions. EasyOCR employs a combination of techniques such as edge detection, contour analysis, or machine learning-based models to achieve text localization. 4. Text Recognition: Once the text regions are identified, EasyOCR applies a text recognition model to recognize and extract the actual text from the identified regions. The text recognition model is typically a deep learning-based model, such as a Convolutional Neural Network (CNN) or a Recurrent Neural Network (RNN), which has been trained on a large dataset of images and corresponding ground-truth text. 5. Language Identification: EasyOCR performs language identification to determine the language of the extracted text. This step helps in selecting the appropriate language-specific model for further processing. 6. Post-processing: After text recognition, EasyOCR applies post-processing techniques to refine and improve the accuracy of the extracted text. This may involve spell-checking, text normalization, removing duplicate characters, or resolving ambiguities based on language-specific rules. 7. Output: Finally, EasyOCR provides the recognized text as output, along with the detected bounding boxes and the identified language. The output can be in the form of plain text, structured data, or integrated with other applications or services for further analysis or processing. EasyOCR supports a wide range of languages and provides pretrained models for text recognition in multiple scripts, including Latin, Cyrillic, Chinese, Japanese, Korean, and many others. Users can also fine-tune the models or train their own models on custom datasets to achieve better performance for specific use cases. NLTK (Natural Language Toolkit) is a powerful Python library widely used for natural language processing (NLP) tasks. It provides a collection of tools, algorithms, and corpora for tasks such as tokenization, stemming, part-of-speech tagging, parsing, semantic reasoning, and more. NLTK is designed to help researchers, developers, and students experiment with and build NLP applications. 1. Here is a high-level overview of how NLTK works and some of its key features: 2. Text Processing: NLTK provides a wide range of text processing capabilities, including tokenization, which splits text into individual words or sentences, and stemming, which reduces words to their base or root form (e.g., "running" to "run"). 3. Corpora and Resources: NLTK offers numerous corpora, which are large collections of text used for language research and development. These corpora cover various domains, such as news, literature, and social media, and are valuable for training and testing NLP models. 4. Part-of-Speech Tagging: NLTK includes pre-trained models and algorithms for part-of-speech (POS) tagging, which assigns grammatical tags to each word in a sentence, such as noun, verb, adjective, etc. This information is essential for many downstream

NLP tasks. 5. Parsing and Chunking: NLTK supports syntactic parsing, which analyses the structure of sentences based on a formal grammar. It can identify phrases, dependencies, and syntactic relationships within the text.

Sources

2% Plagiarized

The authors utilized an advanced deep-learning-based model such as a convolutional neural network (CNN) to detect DME [7]. They presented that a new feature- ...

https://www.ijmrhs.com/medical-research/dmedeep-a-computerize-tool-for-detection-of-diabetic-macular-edema-grading-based-on-multilayer-deep-learning-and-transfe.pdf

2% Plagiarized

Part-of-speech tagging: This involves assigning grammatical tags to each word in a sentence, such as noun, verb, or adjective.

https://www.eventbrite.com/e/learning-week-ai-web-mobile-marketing-idea-building-validation-tickets-609115830847



Home Blog Testimonials About Us Privacy Policy

Copyright © 2022 <u>Plagiarism Detector</u>. All right reserved







Characters:5706

Words:844

Sentences:**53**

Speak Time: 7 Min

Excluded URL

None

Content Checked for Plagiarism

In today's digital age, language translation and text extraction from images have become commonplace in many apps and software. However, our project goes beyond these functionalities by offering an additional feature: text summarization in the user's desired language. Many of us have encountered situations where we come across lengthy paragraphs on websites or documents, and we simply need a brief summary to save time or accommodate our busy schedules. With our platform, users can easily input text or upload an image of the text in any language. They can then select their desired target language for translation and also request a summary of the text's content, all with the assistance of cutting-edge NLP (Natural Language Processing) and Optical Character Recognition (OCR). Our process is designed to be step-by-step and user-friendly, allowing users to choose which steps they want to skip. We provide a proper website with a sleek UI, powered by Flask technology, to ensure a seamless and efficient experience. Whether it's translating text, extracting text from images, or summarising content, our project offers a comprehensive solution that caters to the diverse language needs of our users. Say goodbye to language barriers and information overload - with our project, language translation and summarization are made easy and accessible to all. The advancement of digital technology has paved the way for language translation and text extraction from images to become increasingly common in many software applications. These technologies have significantly reduced the language barriers between individuals and have made it possible for people to communicate with each other in different languages. However, with the vast amounts of information available online, users often encounter lengthy paragraphs that require a significant amount of time to read and comprehend. To address this issue, text summarization technology has emerged as a powerful tool to provide users with quick and concise summaries of lengthy texts. Language translation, text extraction from images, and text summarization are important functions that have become increasingly prevalent in the digital age. These functionalities are achieved through the use of Natural Language Processing (NLP), a subfield of artificial intelligence that deals with the interaction between computers and human language. NLP techniques involve processing large amounts of natural language data, analysing it for patterns, and developing algorithms that enable computers to understand, interpret, and generate human language.

OCR (Optical Character Recognition) technology plays an important role in text extraction from images, which is a key component of many language processing systems. OCR enables computers to recognize text within an image and convert it into machine-readable text. This technology has been used in a wide range of applications, from digitising documents to automating data entry tasks. Our project builds upon these existing technologies by integrating language translation and text summarization capabilities. By leveraging NLP techniques and corpora, our platform is able to translate text between languages and generate concise summaries of lengthy documents. The user-friendly interface and step-by-step process enable users to easily input text or upload an image, select their desired target language and request a summary of the text's content. Overall, the project's comprehensive solution is designed to cater to the diverse language needs of users, making language translation and summarization easy and accessible to all. By combining OCR and NLP technologies, this platform represents an innovative approach to addressing language barriers and information overload in the digital age. The motivation behind our project is to address the challenges posed by language barriers and information overload in today's digital age. As the world becomes increasingly interconnected, the ability to communicate across languages has become essential. However, the vast amounts of information available online often present a significant obstacle to effective communication. Our project seeks to address this issue by providing a comprehensive solution that integrates language translation, text extraction from images, and text summarization capabilities. We are motivated to create a tool that goes beyond the existing functionalities of language translation and text extraction from images by offering an additional feature of text summarization in the user's desired language. Our aim is to create a platform that is easy to use, efficient and accessible to everyone, regardless of language barriers. We are motivated to create a solution that can help individuals save time and accommodate their busy schedules by generating concise summaries of lengthy documents. By leveraging the latest NLP techniques and corpora, we seek to make language translation and text summarization easy and accessible to all. The use of OCR technology in text extraction from images is another area of focus for us, as we recognize its importance in many language processing systems. Our motivation is to create an innovative platform that combines these existing technologies in a user-friendly and comprehensive manner. In summary, our motivation to work on this problem stems from our desire to overcome the challenges posed by language barriers and information overload in the digital age. We aim to create a platform that leverages the latest technologies in language translation, text extraction from images, and text summarization to provide a comprehensive solution that caters to the diverse language needs of users.

Sources

2% Plagiarized

What is Natural Language Processing? Definition - oboloo

https://oboloo.com/blog/what-is-natural-language-processing-definition

2% Plagiarized

WebThis technology has been used in a wide range of applications, including consumer electronics, automotive, Our Services Long Flex Rigid flex Rigid A flexible circuit, also known as a flexible printed circuit or flexible electronics, is a type of circuit board that is designed ...

https://www.bing.com/ck/a?!&&p=b91f616b98c47b60JmltdHM9MTY4NDM2OD

AwMCZpZ3VpZD0zYWJiMzM4Mi1kNmNiLTZhYzgtMmU5YS0yMDk0ZDdiOTZi

ODcmaW5zaWQ9NTE1Mg&ptn=3&hsh=3&fclid=3abb3382-d6cb-6ac8-2e9a2094d7b96b87&psq=%22This+technology+has+been+used+in+a+wide+range
+of+applications%2c%22&u=alaHR0cHM6Ly93d3cucWZsZXhpbmMuY29tL2hv
bWUtcGFnZS8&ntb=1



Home Blog Testimonials About Us Privacy Policy

Copyright © 2022 Plagiarism Detector. All right reserved