hackerearth

Broadridge India Innovation Hackathon

Sample Ideas!

Note: Will be counted as plagiarism if ideas are identical.

Blockchain Interoperability

Solution/Approach

The solution/approach is to use a blockchain bridge that will act as an intermediary between different blockchain networks, allowing for the transfer of assets and data between them. The bridge could use a standard protocol or API that all participating blockchains will need to follow to communicate with each other.

- The use of decentralized or distributed ledger technologies, Interledger Protocol (ILP) will enable blockchain interoperability. The ILP will facilitate cross-border payments between different ledgers and networks, including blockchain networks.
- Blockchain networks will communicate and exchange assets and data with each other, even if they use different protocols and consensus mechanisms.

Outcomes

This will enable seamless integration and communication between different blockchain networks, regardless of their underlying protocols and consensus mechanisms.

Resources

Blockchain Interoperability

Blockchain Community Group

Data extraction from HTML

Solution/Approach

Our solution/approach to this problem is to use a web scraping tool that will be designed to extract data from HTML assets. This tool will be integrated into a user-friendly interface that allows non-technical users to input the HTML assets they want to extract data from and specify the type of data they are looking for (e.g. text, images, tables, etc.). The tool will be integrated with machine learning algorithms to identify the relevant data in the HTML assets and extract it into a structured format.

- The tool will use a monitoring system that periodically checks the HTML assets for changes
- To handle both structured and unstructured data, the web scraping tool will use a combination of techniques such as parsing techniques and machine learning algorithms.

Outcomes

A user-friendly interface that allows non-technical users to extract data from HTML assets quickly and easily, without requiring any coding or technical knowledge.

Reduction in manual intervention making it more efficient.

Resources

Web scraping

Guide on HTML scraping

Data extraction from handwritten docs

Solution/Approach

The solution/approach for automating the data extraction process from handwritten documents is to use a combination of optical character recognition (OCR) and machine learning algorithms. To improve the accuracy of data extraction, machine learning algorithms can be trained on a dataset of handwritten forms.

- Our first step will be to scan the handwritten documents and convert them into digital images. The images would then be processed using OCR algorithms, which would identify and extract the text from the documents.
- The algorithms will recognize different handwriting styles, and how to extract data from different types of fields, such as checkboxes, radio buttons, and dropdown menus.
- We will use natural language processing (NLP) techniques to extract data from unstructured fields, such as free text boxes.

Outcomes

The outcome of this solution will be a highly accurate and efficient system for extracting data from handwritten documents. By automating the process, the solution would reduce the need for manual data entry, leading to significant time and cost savings.

Resources

Extract handwritten notes

Data extraction Google

Printer-ready PDF files

Solution/Approach

Our solution for checking the printer readiness of PDF files is to develop a software tool or a web application that utilizes PDF libraries and APIs to analyze the file and identify potential issues.

- The tool will analyze the PDF file and check for common printer readiness issues, such as margins, page orientation, page size, and font errors.
- The tool can generate a printer-ready PDF file that is optimized for printing, ensuring that the final output is accurate and of high quality.
- To further improve the efficiency of the solution, the tool could also be integrated with popular PDF editings software, such as Adobe Acrobat or Foxit PhantomPDF, allowing users to easily check and fix printer readiness issues without the need for a separate tool or application.

Outcomes

The development of a printer readiness tool could significantly reduce the time and costs associated with printing PDF files, while also improving the quality and accuracy of the final output.

Resources

What is the print-ready file?

Acrobat

PII data masker

Solution/Approach

The solution/approach to this problem is to develop a PII data masker tool that uses machine learning algorithms to automatically detect and mask sensitive information in files. The tool will be designed to scan multiple file types, including text files, spreadsheets, and databases, and we will use natural language processing techniques to identify PII data patterns.

- A web-based or desktop application, allows users to upload their files to the platform and receive immediate feedback on any PII data detected.
- The tool will also provide recommendations on how to address any identified issues, such as removing the PII data or encrypting the file.
- The tool will be trained on large datasets of PII data and validated against real-world scenarios.

Outcomes

Our PII data masker tool will provide a practical and effective solution for automating the detection and masking of sensitive information in files, helping to reduce the risks of privacy breaches and safeguarding the privacy and security of individuals and organizations.

Resources

What is PII Masking and How Can You Use It?

Skyflow

Chat GPT-powered assistance

Solution/Approach

To design a chatbot that can handle natural language queries and provide relevant answers based on the organization's internal private data.

- The chatbot will be trained in natural language processing (NLP). This involves the chatbot recognizing and interpreting different types of queries and responding appropriately. We will use NLP tool spaCy to train the chatbot.
- We will be testing the chatbot's NLP capabilities and data integration as needed.

Outcomes

The chatbot would be designed with security and privacy in mind to prevent any unauthorized access to internal private data. With a well-designed chatbot in place, employees will have easier and faster access to the organization's internal data, leading to improved efficiency, productivity, and decision-making.

Resources

AI-based assistant

AI chatbots

Email categorizing

Solution/Approach

The solution/approach to this problem statement is to create an email management system using NLP and machine learning techniques.

- We will collect a large dataset of emails categorized into relevant categories such as urgent, non-urgent, feedback, support, etc. This data will be collected from various sources such as customer support emails, marketing emails, and feedback emails.
- Extract relevant features from the pre-processed data such as the frequency of words, presence of certain keywords, and sentiment analysis.
- We will train the machine learning model and test it to evaluate its performance metrics such as accuracy, precision, and recall.

Outcomes

The outcome of this solution would be an efficient and productive email management system that saves time and effort by automating email categorization. The system would be able to prioritize important emails and reduce the risk of missing critical emails.

Resources

Email categorizing

Email optimization

Thank You!

We hope this nudges you forward towards your own unique idea!

Idea Submission ends May 07, 2023, 11:55 PM IST.
No further extensions.

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