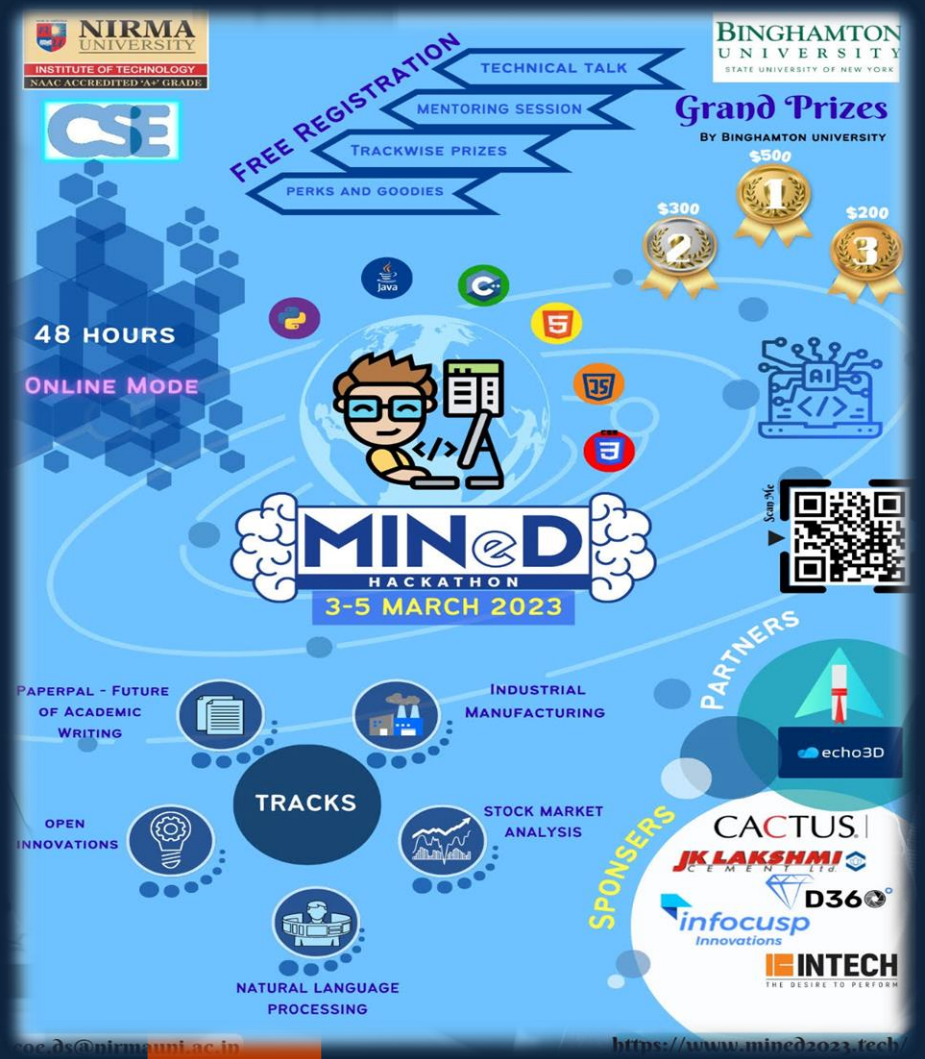
MINed Hackathon 2024

Aneri Thakkar

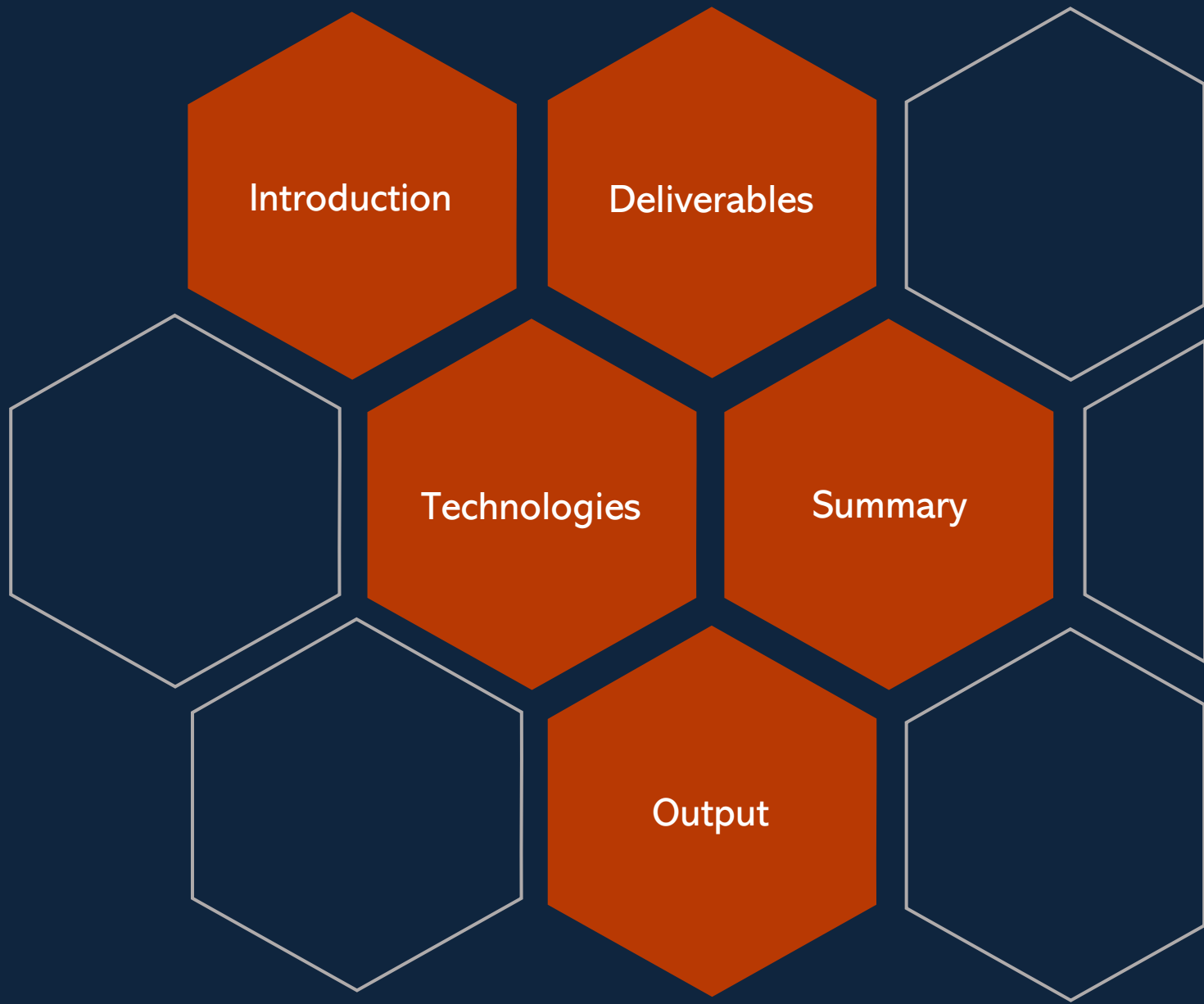
Patel Eva

Rana Neha

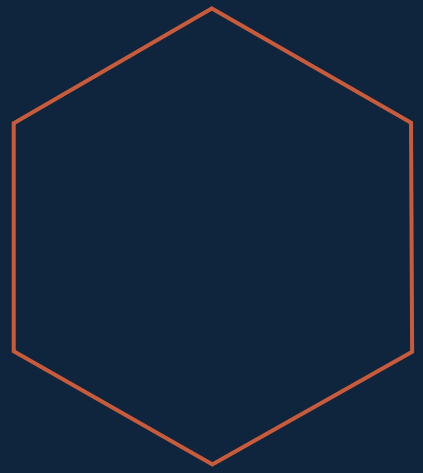
Chaudhari Rushali



Agenda



Introduction



ChatWithAnyScientificDocument

Goal: Develop a solution to parse multiple document types and connect with LLMs for interaction

Building a Multimodal Document Parsing and LLM Chat Interface

Document Types: .PDF, .PPT, .PPTX, .DOCX, .DOC, .TEX

Input: Various document types

Parsing Module: Convert documents into a unified format (e.g., plain text or structured data)

Handling user queries and generating responses based on document context

Document upload section, Chat interface with LLM, Query input field, Response display area

Asking questions related to the uploaded documents and receiving LLM-generated responses

Deliverables

1. Document Parser for atleast 2 or more doc types. Special bonus points for supporting .tex and .ppt
2. Suggested questions/context from the documents via contextual understanding with LLM or any traditional NLP models in case you don’t want to build chat interface.
3. User input question answering on top of the parsed document in case you are building the chat interface.

Technologies

Main technology which we are used here is :Frontend Technologies : HTML,CSS, Js Backend technologies : Python Framework : DJango Used technologies : Natural language processing, Natural language generation, RAG-Langchain Database : FAISS (for storing the vector space) LLM: OpenAI

OUTPUTS

Uploading file

```
from google.colab import files
uploaded = files.upload()
file_name = input("Enter file name :")
```

Choose Files No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.

```
Saving IEEE Format.tex to IEEE Format.tex
Enter file name :IEEE Format.tex
```

Chat with PDF(how questioning)

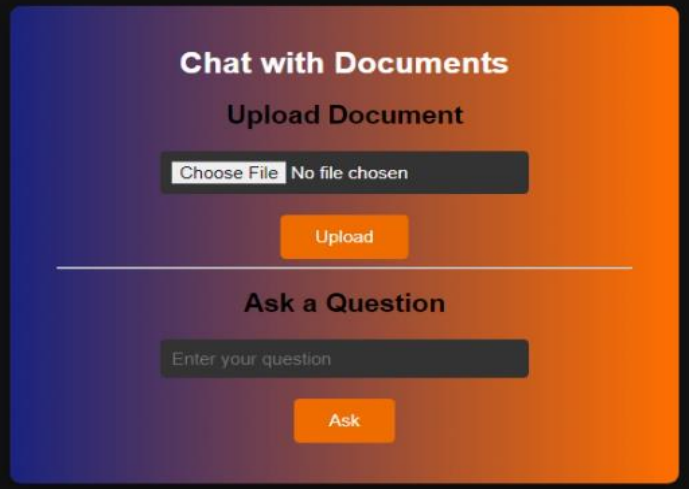
```
question_answering(docsearch, chain)
```

```
Enter your question (or type 'quit' to exit): how many tables are there in the given docment
Answer:  There is only one table in the given document.

Enter your question (or type 'quit' to exit): sammry of table given in the doc
Answer:  The table compares the proposed work with existing work in terms of various factors such as software waste reduction, adaptability to new technology, green factors, green coding, virtualization,

Enter your question (or type 'quit' to exit): quit
```

Chat with PDF(summary and why questioning)

```
question_answering(docsearch, chain)

Enter your question (or type 'quit' to exit): why user stories is useful?
/usr/local/lib/python3.10/dist-packages/langchain_core/_api/deprecation.py:117: LangChainDeprecationWarning: The function `run` was deprecated in LangChain 0.1.0 and will be removed in 0.2.0. Use invoke ins
  warn_deprecated(
Answer:  User stories are useful because they clearly define the goals and needs of the customer, allowing the development team to understand and prioritize what needs to be done. They also help in identify

Enter your question (or type 'quit' to exit): explain summary of the given document
Answer:
The document is discussing user stories and acceptance criteria, specifically in the context of a mobile application designed for delivery people. The team is working on improving the productivity of the de

Enter your question (or type 'quit' to exit): tell me about figures in this document
Answer:  From the context provided, it appears that figures are not mentioned in this document. The document primarily discusses user stories and acceptance criteria for a mobile application designed for de

Enter your question (or type 'quit' to exit): tell me about usar stoories of agile soft dev
Answer:  User stories are short, simple descriptions of a feature or functionality from the perspective of the end-user. They are used in Agile Software Development as a way to capture the requirements and

Enter your question (or type 'quit' to exit): quit
```

Chat with PDF(Interface)



Summary

Our solution helps people understand and work with different types of documents, not just PDFs. It can handle formats like Word files, PowerPoint slides, and even LaTeX documents often used by researchers.

This solution makes it easier for everyone, especially researchers, to get the most out of their documents and the latest technology.

Thank you

Team: Tech Titans