CAPSTONE PROJECT

HOSPITAL CHATBOT

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OUTLINE

- **Problem Statement** (Should not include solution)
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Algorithm & Deployment**
- **Result**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

Currently it takes a lot of time to get checked up by line at the hospital... and many patients come from far away and get checked up by appointment. Due to which a lot of time is wasted. In order to save time, those patients can reserve a doctor's appointment sitting at home a few days in advance by their phone or computer.

PROPOSED SOLUTION

- The proposed system aims to address the challenge of predicting the required bike count at each hour to ensure a stable supply of rental bikes. This involves leveraging data analytics and machine learning techniques to forecast demand patterns accurately. The solution will consist of the following components:
- Data Collection:
  - Gather data on doctor's list of the hospital , PKSD Hospital , Bagnan, Howrah , West Bengal , Date – 01/08/2024
  - My chatbot is based on health industry so no weather conditions , events are not effected without national holiday
- Data preprocessing :
  - Clean the doctor's name who are not connected with the hospital. And rearange the shifts and days.
  - Feature engineering to extract relevant features from the data that might impact bike demand.
- Machine Learning Algorithm:
  - The machine learning algorithm which used to make this doctor's appointment hospital bot is NATURAL LANGUAGE PROCESSING(NLP)
- Deployment:
  - This is an user-friendly interface of web portal of the PKSD Hospital that provides any time access for booking appointment.
  - Tt takes very less time to answer the customer's question and the internet connection is secure throughout the conversation.
- Evaluation:
  - The model works on feedback and continuous monitoring of prediction accuracy.

SYSTEM APPROACH

System requirements :

Processor - 12th Gen Intel(R) Core(TM) i5-1235U 1.30 GHz

Installed RAM - 8.00 GB (7.68 GB usable)

System type - 64-bit operating system, x64-based processor

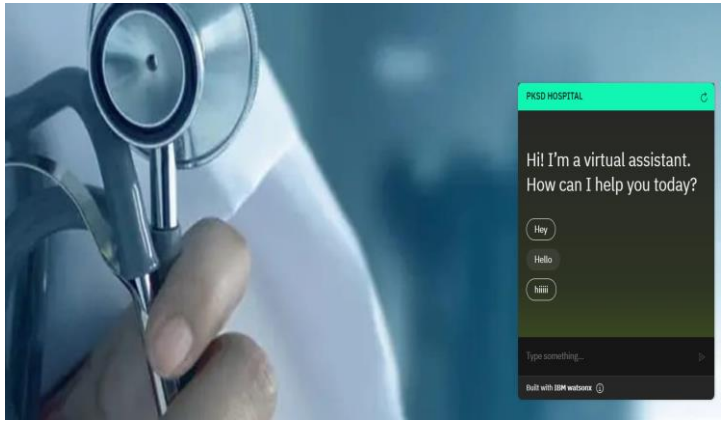
Library required to build the model :

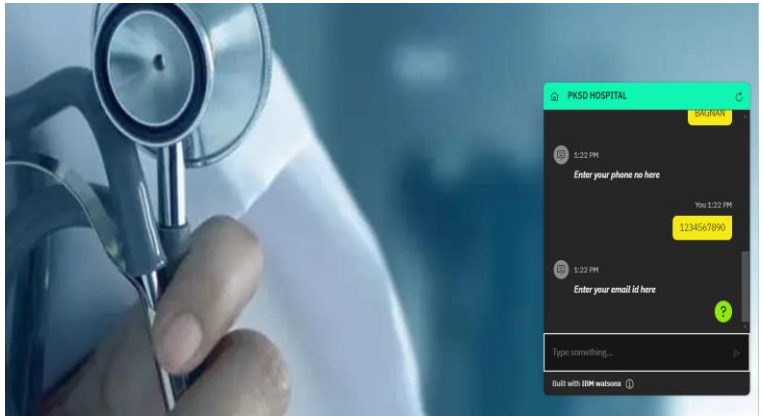
IBM CLOUD , IBM Watsonx Assistant .

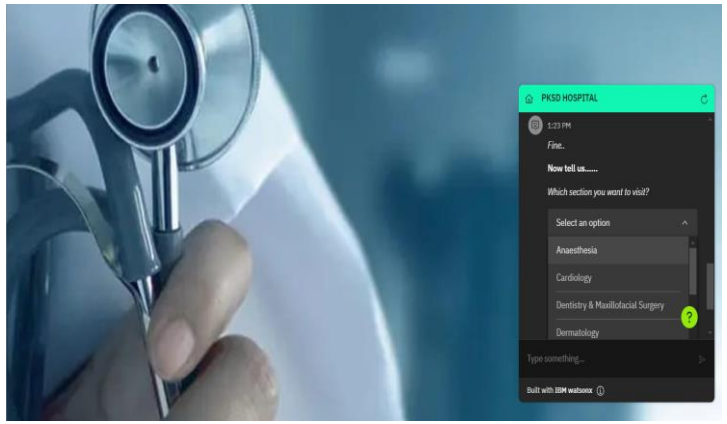
ALGORITHM & DEPLOYMENT

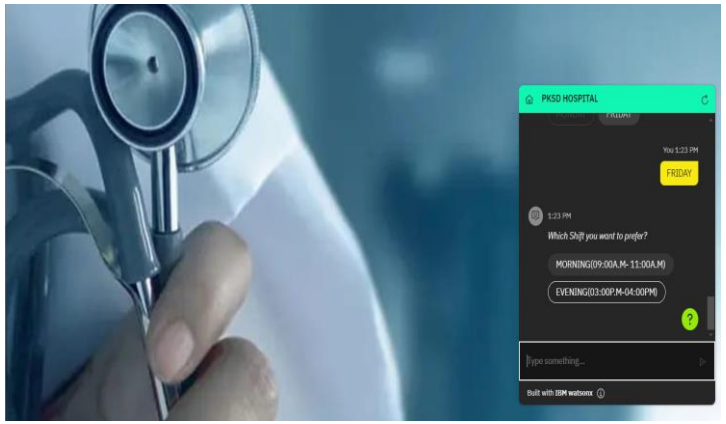
- Algorithm Selection:
  - The machine learning algorithm which used to make this doctor's appointment hospital bot is **NATURAL LANGUAGE PROCESSING** (NLP**).** It equips chatbots with the ability to understand and process human language, enabling them to engage in meaningful conversations with users. NLP algorithms break down text data into its constituent parts, such as words and phrases, and analyze the context in which they are used..
- Data Input:
  - I collected the data of doctor from various hospital web portal and arrange them in a list as an input.
- Training Process:
  - At first the name of doctors are collected then arrange them with their specialization. Then fixed their schedule with date and time . And then the customers reserve the appointment as per choice.
- Prediction Process:
  - The customer will get their reserve appointment in advance.

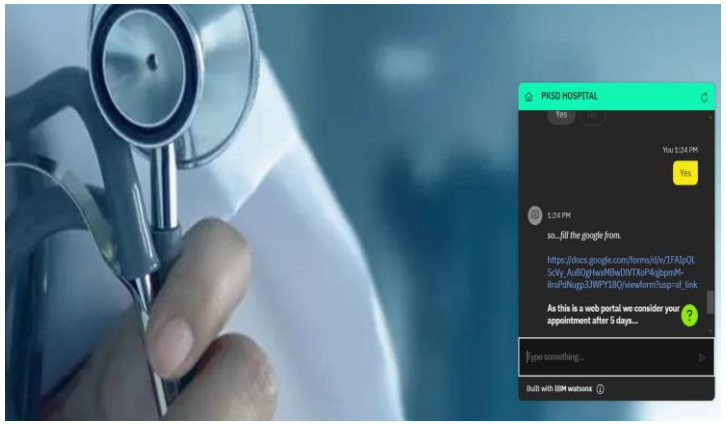
RESULT

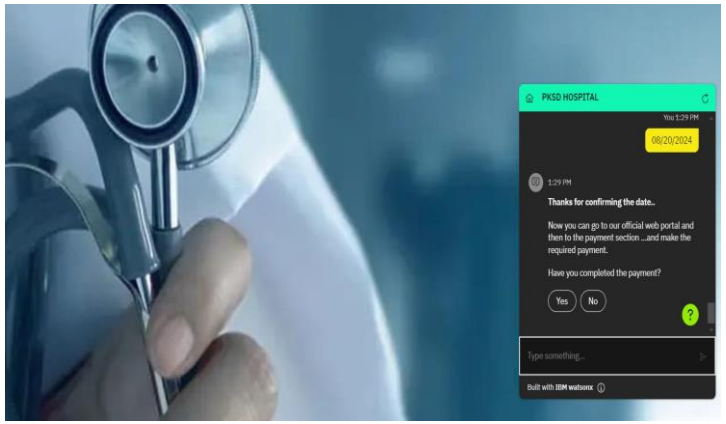












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CONCLUSION

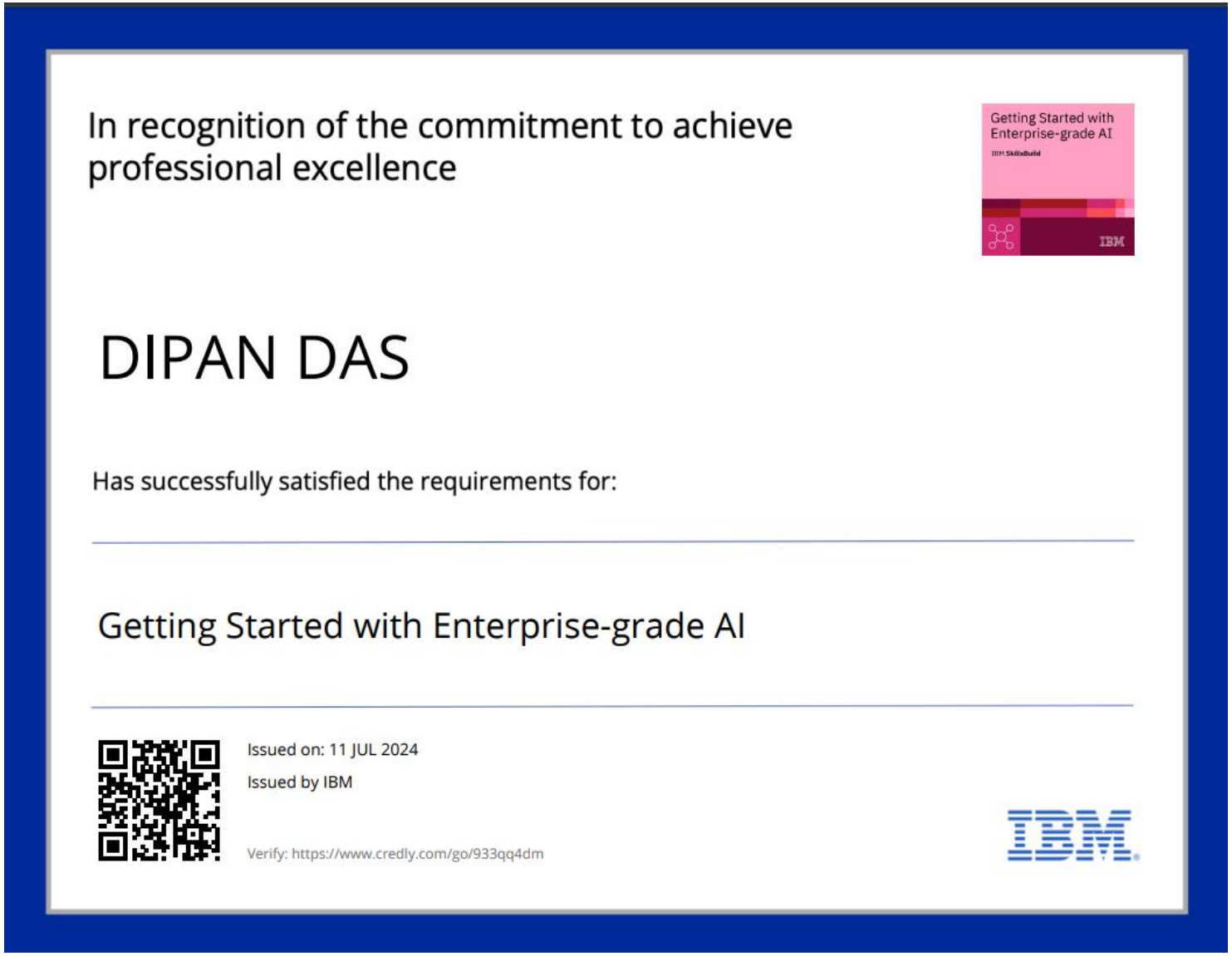
- After summerize the model we says that it’s very useful for the pacient ,specially for the long distance pacient. They will choose their preferable doctor, date and time. And reserve their appointment in advace. So their time will be saved even for a bit. As a result, hospital congestion can also be avoided.

REFERENCES

- I collect the doctor's name list from various Hospital's web portal of google and prescriptions of some doctors. Arrange their schedule by myself

- Link of chat bot :
- https://web-chat.global.assistant.watson.appdomain.cloud/preview.html?backgroundImageURL=https%3A%2F%2Fau-syd.assistant.watson.cloud.ibm.com%2Fpublic%2Fimages%2Fupx-8fa8f8c9-c817-4fa1-823c-bb2aa9264593%3A%3A0b4b0e18-ea4f-48d7-9b77-3ed037a86c43&integrationID=09d0f937-855a-438e-9a6d-445c62c51522&region=au-syd&serviceInstanceID=8fa8f8c9-c817-4fa1-823c-bb2aa9264593

COURSE CERTIFICATE 1



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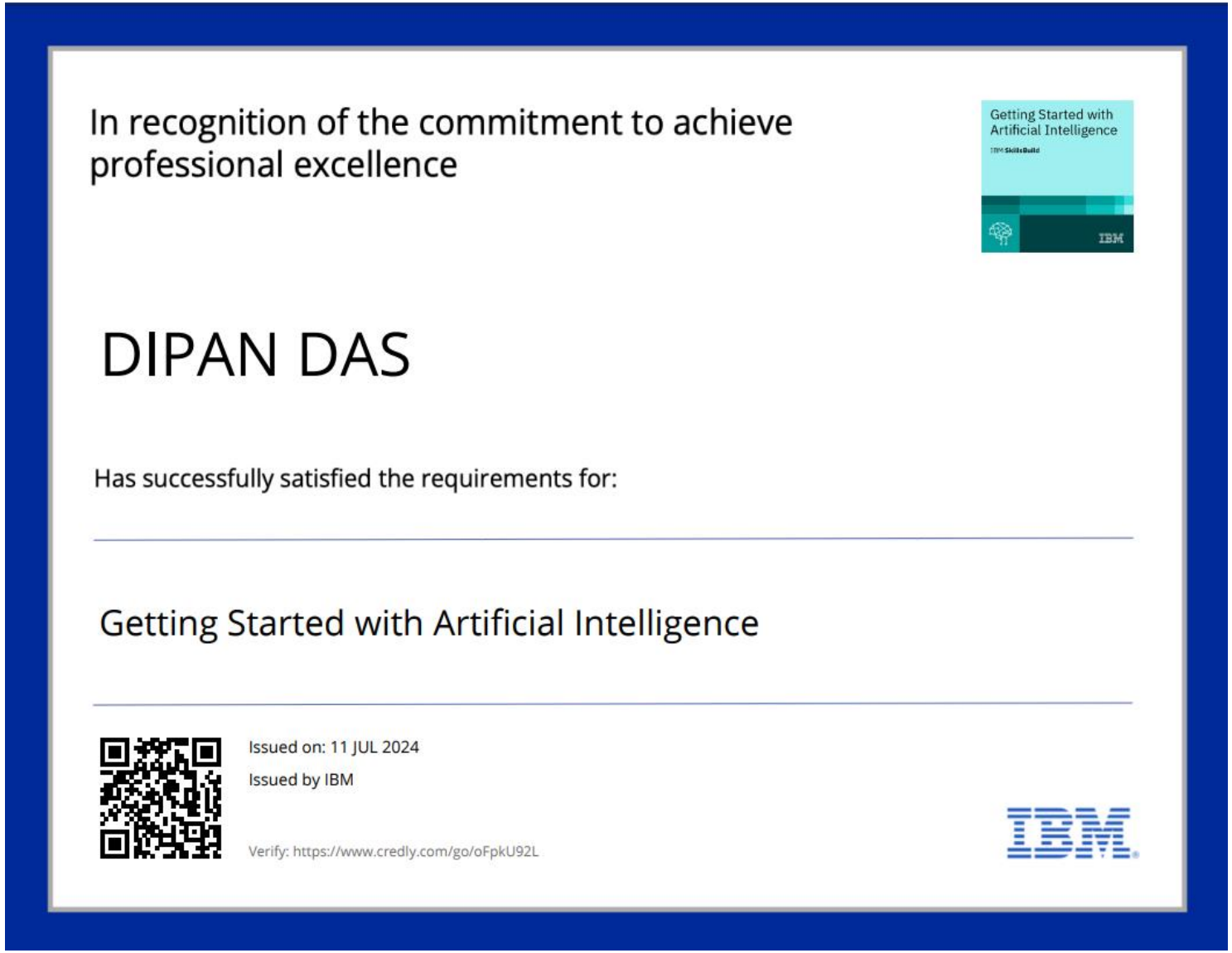

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