

ASSINGMENT-4

Assignment Date	19 September 2022
Student Name	Selvakumar
Student Roll Number	715319106303
Maximum Marks	2 Marks

EFFICIENT WATER QUALITY ANALAYSIS & PREDICTION USING MACHINE LEARING

INTRODUCTION

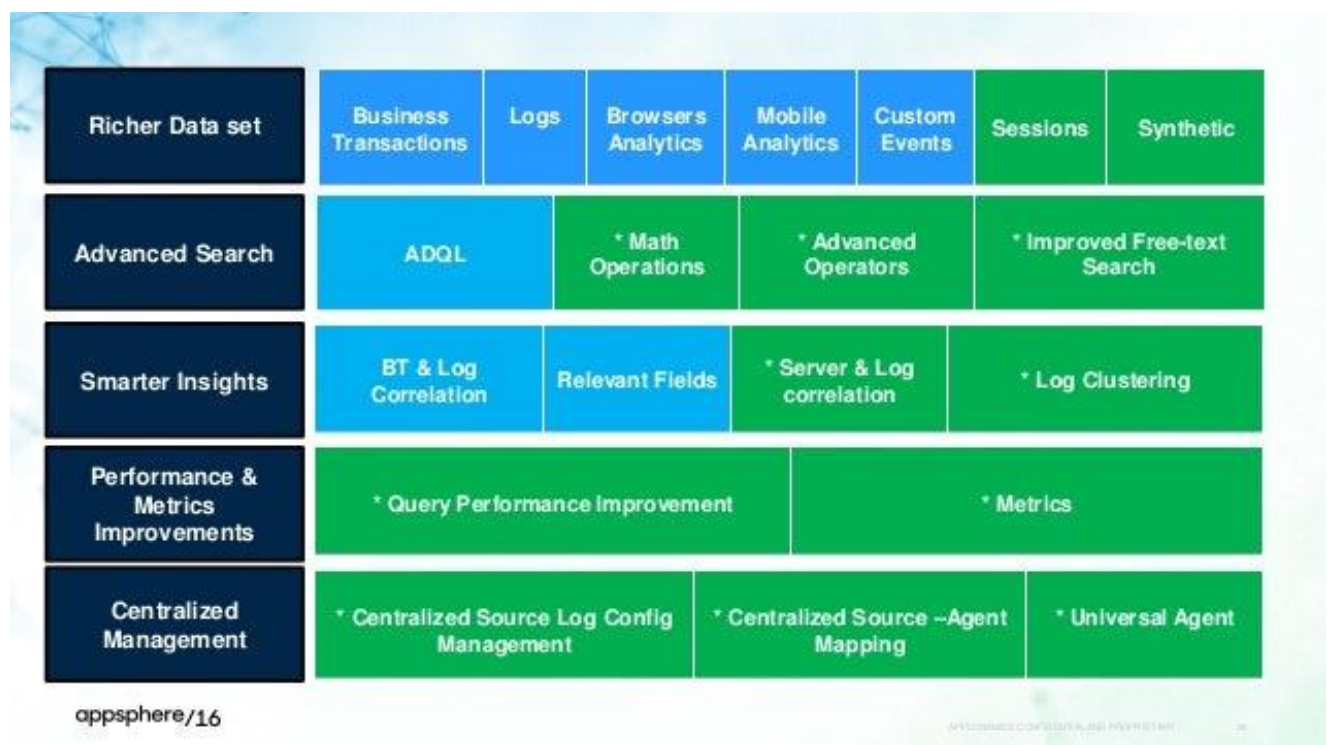
Banking institutions register millions of transactions every day. The amount of information generated is enormous, so collecting and registering it, as well as determining the relationship between the collected data, becomes a difficult task. Previously, a bank employee used to know the name and financial history of their client and understood which options are best to offer. Now, this is unrealistic, since the banks have more clients, including those abroad.

AI applications collect and analyze data. This improves the user experience. The information can be used to issue loans or detect fraud. AI helps you evaluate potential profit using big data analytics.

DICEUS service

We offer a full scope of the capabilities of AI in banking use cases, including the development of performance management systems, a full range of analytics, advanced forecasting tools, and software platforms. Our software solutions enable financial providers to do the following:

1. Provide better services, attract more customers, and increase revenue. We help optimize data aggregation and use, reduce regulatory and market risks, and successfully combat fraud.
2. Leverage AI to build an intelligent customer relationship management (CRM) system with predictive capabilities based on historical data. Our team will help you determine how AI can benefit your bank.
3. Empower AI, develop banking products and services faster and more efficiently through the use of the cloud. Our team will develop the right AI implementation and deployment strategy for your financial institution.
4. Leverage OCR solutions to help your bank acquire and analyze digital visuals faster. Computer vision software will greatly simplify the work of staff and provide more reliable data analysis.
5. Apply NLP solutions. Our team has experience in creating customized chatbots for banks and financial institutions. We conduct an in-depth analysis of the target audience to determine the optimal communication models and contexts.



```
import pandas as pd
import nltk
import re
```

```
data = pd.read_csv("/content/spam.csv",encoding = "ISO-8859-1")
```

In [2]:

```
data.head()
```

In [3]:

Out[3]:

	v1	v2	Unnamed: 2	Unnamed: 3	Unnamed: 4
0	ham	Go until jurong point, crazy.. Available only ...	NaN	NaN	NaN
1	ham	Ok lar... Joking wif u oni...	NaN	NaN	NaN

	v1	v2	Unnamed: 2	Unnamed: 3	Unnamed: 4
2	spam	Free entry in 2 a wkly comp to win FA Cup fina...	NaN	NaN	NaN
3	ham	U dun say so early hor... U c already then say...	NaN	NaN	NaN
4	ham	Nah I don't think he goes to usf, he lives aro...	NaN	NaN	NaN

```
In [4]:
data.drop(["Unnamed: 2", "Unnamed: 3", "Unnamed: 4"], axis = 1, inplace = True)
data.head()
```

Out[4]:

	v1	v2
0	ham	Go until jurong point, crazy.. Available only ...
1	ham	Ok lar... Joking wif u oni...
2	spam	Free entry in 2 a wkly comp to win FA Cup fina...
3	ham	U dun say so early hor... U c already then say...
4	ham	Nah I don't think he goes to usf, he lives aro...

Text Processing

```
In [ ]:
nltk.download('stopwords')
nltk.download('all')
```

```
In [6]:
from nltk.corpus import stopwords
from nltk.stem.porter import PorterStemmer
```

```
In [7]:
ps = PorterStemmer()
input = []
```

```
In [8]:
data.shape
```

```
Out[8]:
(5572, 2)
```

```
In [9]:
from nltk.translate.ribes_score import word_rank_alignment
from numpy.lib.shape_base import split
```

```

for i in range(0,5572):
    v2 = data['v2'][i]

    #removing punctuation
    v2 = re.sub('[^a-zA-Z]', ' ',v2)

    #converting to lower case
    v2 = v2.lower()

    #splitting the sentence
    v2 = v2.split()

    #removing the stopwords and stemming
    v2 = [ps.stem(word) for word in v2 if not word in
set(stopwords.words('english'))]

    v2 = ' '.join(v2)

    input.append(v2)

```

In [10]:

input

Out[10]:

```

['go jurong point crazi avail bugi n great world la e buffet cine got amor wa
t',
'ok lar joke wif u oni',
'free entri wkli comp win fa cup final tkt st may text fa receiv entri quest
ion std txt rate c appli',
'u dun say earli hor u c already say',
'nah think goe usf live around though',
'freemsg hey darl week word back like fun still tb ok xxx std chg send rcv',
'even brother like speak treat like aid patent',
'per request mell mell oru minnaminungint nurungu vettam set callertun calle
r press copi friend callertun',
'winner valu network custom select receivea prize reward claim call claim co
de kl valid hour',
'mobil month u r entitl updat latest colour mobil camera free call mobil upd
at co free',
'gonna home soon want talk stuff anymor tonight k cri enough today',
'six chanc win cash pound txt csh send cost p day day tsandc appli repli hl
info',
'urgent week free membership prize jackpot txt word claim c www dbuk net lcc
ltd pobox ldnw rw',
'search right word thank breather promis wont take help grant fulfil promis
wonder bless time',
'date sunday',
'xxxmobilemovieclub use credit click wap link next txt messag click http wap
xxxmobilemovieclub com n qjkgighjjgcbl',
'oh k watch',
'eh u rememb spell name ye v naughti make v wet',
'fine way u feel way gota b',

```

'england v macedonia dont miss goal team news txt ur nation team eg england
tri wale scotland txt poboxox w wq',
'serious spell name',
'go tri month ha ha joke',
'pay first lar da stock comin',
'aft finish lunch go str lor ard smth lor u finish ur lunch already',
'ffffffffffff alright way meet sooner',
'forc eat slice realli hungri tho suck mark get worri know sick turn pizza l
ol',
'lol alway convinc',
'catch bu fri egg make tea eat mom left dinner feel love',
'back amp pack car let know room',
'ahhh work vagu rememb feel like lol',
'wait still clear sure sarcast x want live us',
'yeah got v apologet n fallen actin like spoilt child got caught till go bad
li cheer',
'k tell anyth',
'fear faint housework quick cuppa',
'thank subscript rington uk mobil charg month pleas confirm repli ye repli c
harg',
'yup ok go home look time msg xuhui go learn nd may lesson',
'oop let know roommat done',
'see letter b car',
'anyth lor u decid',
'hello saturday go text see decid anyth tomo tri invit anyth',
'pl go ahead watt want sure great weekend abiola',
'forget tell want need crave love sweet arabian steed mmmmmmm yummi',
'rodger burn msg tri call repli sm free nokia mobil free camcord pleas call
deliveri tomorrow',
'see',
'great hope like man well endow lt gt inch',
'call messag miss call',
'get hep b immunis nigeria',
'fair enough anyth go',
'yeah hope tyler could mayb ask around bit',
'u know stubborn even want go hospit kept tell mark weak sucker hospit weak
sucker',
'think first time saw class',
'gram usual run like lt gt half eighth smarter though get almost whole secon
d gram lt gt',
'k fyi x ride earli tomorrow morn crash place tonight',
'wow never realiz embarass accomod thought like sinc best could alway seem h
appi cave sorri give sorri offer sorri room embarass',
'sm ac sptv new jersey devil detroit red wing play ice hockey correct incorr
ect end repli end sptv',
'know mallika sherawat yesterday find lt url gt',
'congrat year special cinema pass call c suprman v matrix starwar etc free b
x ip pm dont miss',
'sorri call later meet',
'tell reach',
'ye gauti sehwaq odi seri',
'gonna pick burger way home even move pain kill',
'ha ha ha good joke girl situat seeker',

'part check iq',
'sorri roommat took forev ok come',
'ok lar doubl check wif da hair dresser already said wun cut v short said cu
t look nice',
'valu custom pleas advis follow recent review mob award bonu prize call',
'today song dedic day song u dedic send ur valuabl frnd first rppli',
'urgent ur award complimentari trip eurodisinc trav aco entri claim txt di m
orefrmmob shracomorsglsuplt ls aj',
'hear new divorc barbi come ken stuff',
'plane give month end',
'wah lucki man save money hee',
'finish class',
'hi babe im home wanna someth xx',
'k k perform',
'u call',
'wait machan call free',
'that cool gentleman treat digniti respect',
'like peopl much shi pa',
'oper lt gt',
'still look job much ta earn',
'sorri call later',
'k call ah',
'ok way home hi hi',
'place man',
'yup next stop',
'call later network urgnt sm',
'real u get yo need ticket one jacket done already use multi',
'ye start send request make pain came back back bed doubl coin factori gotta
cash nitro',
'realli still tonight babe',
'ela kano il download come wen ur free',
'yeah stand close tho catch someth',
'sorri pain ok meet anoth night spent late afternoon casualti mean done stuf
f moro includ time sheet sorri',
'smile pleasur smile pain smile troubl pour like rain smile sum hurt u smile
becoz someon still love see u smile',
'pleas call custom servic repres pm guarante cash prize',
'havent plan buy later check already lido got show e afternoon u finish work
already',
'free rington wait collect simpli text password mix verifi get usher britney
fml',

Assessment of investments

The process involves collaboration between multiple teams responsible for various aspects of investment asset management, credit analysts, portfolio managers, and product specialists.

An AI-powered application can process large amounts of data from multiple sources in real time, learning each analyst's preference and risk tolerance across a timeline. In other words, the algorithm will determine which options are based on fundamental and technical data rather than human.

Advanced analytics

Banking institutions register millions of transactions every day. The amount of information generated is enormous, so collecting and registering it, as well as determining the relationship between the collected data, becomes a difficult task.

Previously, a bank employee used to know the name and financial history of their client and understood which options are best to offer. Now, this is unrealistic, since the banks have more clients, including those abroad.



Conclusion

Still, the implementation of AI in banking is early in its adoption phase, and the AI opportunities for the banking sector are vast. The technology will give many benefits to banks and financial institutions. Whether it is an Android or OS app artificial intelligence will be a game-changer in the banking sector.

As discussed in our top 10 use cases of AI in the banking sector article, AI-based mobile banking apps are brilliant in understanding the user's behavior and providing a personalized experience.