AI-DRIVEN EXPLORATION AND PREDICTION OF COMPANY REGISTRATION TRENDS WITH REGISTRAR OF COMPANIES (ROC) IN DATA PRE PROCESSING

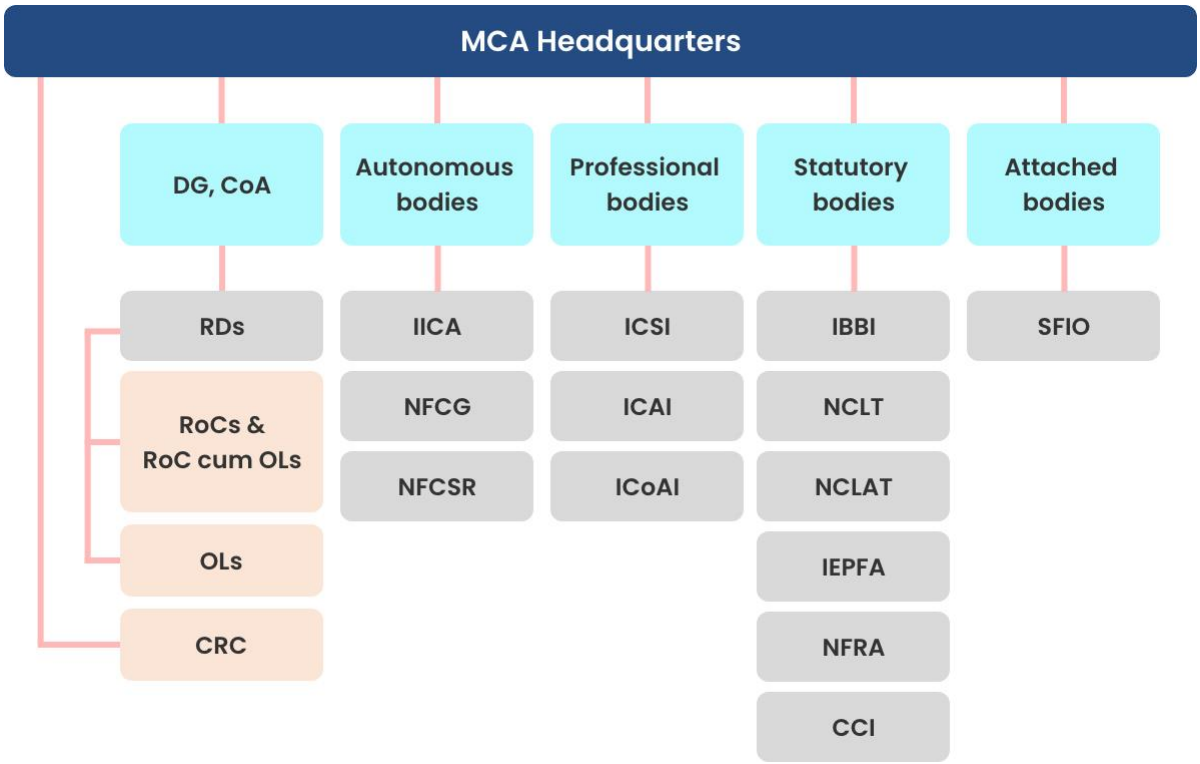
Phase - 4

COMPANY MASTER DATA

Get data on master details of any company registered with Registrar of Companies (RoC). Data contains various information like Corporate Identification Number(CIN), Company Name, Company Status, Company Class, Company Category, Authorized Capital in INR, Paid-up Capital in INR, Date of Registration, Registered State, Registrar of Companies, Principal Business Activity, Registered Office Address and Sub Category.

ROC-WISE STATISTICS OF PROSECUTIONS

Get the data regarding ROC-wise statistics of prosecutions. The data has been published by Ministry of Corporate Affairs.Economic- Activity wise Active Non-Government CompaniesThe data describes details on Economic- Activity wise Active Non-Government Companies. Data has been published by The Ministry of Corporate Affairs, Government of India.

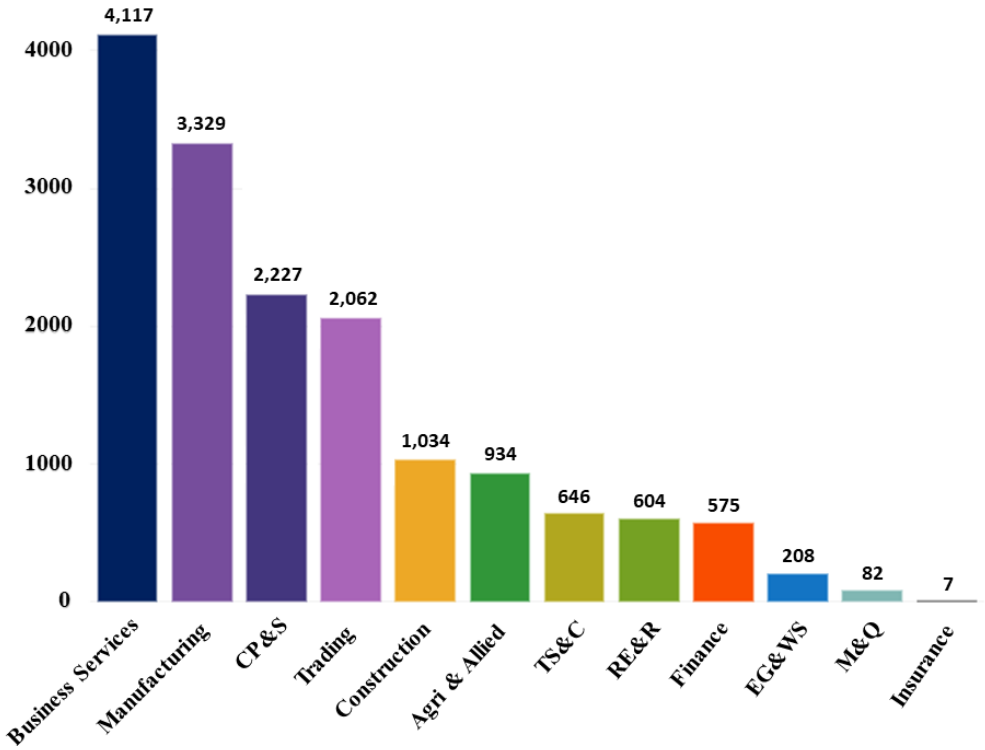


State-wise Distribution of Number of Active Non-Government Companies Limited by Shares

Get the data details about on State-wise Distribution of Number of Active Non-Government Companies Limited by Shares. Data has been published by The Ministry of Corporate Affairs, Government of India.

NEW REGISTRATION OF COMPANIES

A total of 15,825 companies were registered with a collective Paid-up Capital of Rs. 1056.12 Crore. Out of the total new registrations, 15,722 companies were registered as Companies Limited by Shares with a Paid-Up Capital of Rs. 1056.07 Crore, 103 companies were registered as Companies Limited by Guarantee with a Paid-Up Capital of Rs. 0.05 Crore. There was an overall decrease of 4.16% in the number of new registrations in June 2022 when compared to May 2022. (Table 5) Economic-activity wise classification of new companies registered reveals that the predominant share of companies is in Business Services (26%) followed by Manufacturing (21%), Community, personal & Social Services (14%), Trading (13%), and Construction (7%). Among the Industrial sector, Electricity, Gas and Water Supply companies observed a remarkable growth of more than 18% while in the Service Sector, Real Estate and Renting witnessed a rise of 6.15% in June 2022 in contrast to May 2022. (Table 6) *CP&S - Community, Personal and Social Services, *Agri & Allied - Agriculture and Allied Activities, *RE&R - Real Estate and Renting, *TS&C – Transport, Storage and Communications, *EG&WS - Electricity, Gas and Water Supply Companies, *M&Q - Mining and Quarrying Economic Activity-wise Distribution of New Registered Companies during June 2022



PREDICTIVE MODELLING:

Predictive modeling is a mathematical process used to predict future events or outcomes by analyzing patterns in a given set of input data. It is a crucial component of predictive analytics, a type of data analytics which uses current and historical data to forecast activity, behavior and trends.

Examples of predictive modeling include estimating the quality of a sales lead, the likelihood of spam or the probability someone will click a link or buy a product. These capabilities are often baked into various business applications, so it is worth understanding the mechanics of predictive modeling to troubleshoot and improve performance.

Although predictive modeling implies a focus on forecasting the future, it can also predict outcomes (e.g., the probability a transaction is fraudulent). In this case, the event has already happened (fraud committed). The goal here is to predict whether future analysis will find the transaction *is* fraudulent. Predictive modeling can also forecast future requirements or facilitate what-if analysis.

"Predictive modeling is a form of data mining that analyzes historical data with the goal of identifying trends or patterns and then using those insights to predict future outcomes," explained Donncha Carroll a partner in the revenue growth practice of Axiom Consulting Partners. "Essentially, it asks the question, 'have I seen this before' followed by, 'what typically comes after this pattern.'"

TOP TYPES OF PREDICTIVE MODELS

There are many ways of classifying predictive models and in practice multiple types of models may be combined for best results. The most salient distinction is between unsupervised versus supervised models.

> Unsupervised models use traditional statistics to classify the data directly, using techniques like logistic regression, time series analysis and decision trees.Supervised models use newer machine learning techniques such as neural networks to identify patterns buried in data that has already been labeled.

FEATURE ENGINEERING :

Private Limited is an unlisted private company incorporated on 31 March, 2023. It is classified as a private limited company and is located in , Karnataka. It's authorized share capital is INR 10.00 lac and the total paid-up capital is INR 1.00 lac.

The current status of Feature Engineering Private Limited is - Active.

Details of the last annual general meeting of Feature Engineering Private Limited are not available. The company is yet to submit its first full-year financial statements to the registrar.

Feature Engineering Private Limited has two directors - Shubhangi Praveen Passi and Sudhanshu Praveen Passi.

The Corporate Identification Number (CIN) of Feature Engineering Private Limited is U62099KA2023PTC171793. The registered office of Feature Engineering Private Limited is at Prestige Atlanta, 80 Feet Rd, Koramangala 1A Block,Koramangala 3 Block, Koramangala Bangalore South , Karnataka.

NAME	INCORPORATION YEAR	STATE	PAID UP CAPITAL	
SRI MUNDRIKA INFOTECH PRIVATE LIMITED	2023	Bihar	1.00 lac	Buy financial reports
BLUE ARROW TECHNOLOGY CONSULTING SERVICES PRIVATE LIMITED	2023	Karnataka	1.00 lac	Buy financial reports
SADGURU CONTROLS AND AUTOMATION PRIVATE LIMITED	2023	Maharashtra	1.00 lac	Buy financial reports
TECREC TECHNOLOGIES PRIVATE LIMITED	2023	Andhra Pradesh	1.00 lac	Buy financial reports
TECHFORTH ITSEVA PRIVATE LIMITED	2023	West Bengal	1.00 lac	Buy financial reports
BEAMIO ENGINEERING SOLUTIONS PRIVATE LIMITED	2023	Andhra Pradesh	1.00 lac	Buy financial reports

EXPLORATORY DATA ANALYSIS

Exploratory Data Analysis or EDA is used to take insights from the data. Data Scientists and Analysts try to find different patterns, relations, and anomalies in the data using some statistical graphs and other visualization techniques. Following things are part of EDA :

1. Get maximum insights from a data set
2. Uncover underlying structure
3. Extract important variables from the dataset
4. Detect outliers and anomalies(if any)
5. Test underlying assumptions
6. Determine the optimal factor settings

EDA IS IMPORTANT

The main purpose of EDA is to detect any errors, outliers as well as to understand different patterns in the data. It allows Analysts to understand the data better before making any assumptions. The outcomes of EDA helps businesses to know their customers, expand their business and take decisions accordingly.

COMPANY_NAME
HOCHTIEFF AG,
SUMITOMO CORPORATION (SUMITOMO SHOJI KAISHA LIMITED)
SRILANKAN AIRLINES LIMITED
CALTEX INDIA LIMITED
GE HEALTHCARE BIO-SCIENCES LIMITED
CAIRN ENERGY INDIA PTY. LIMITED
TORIELLI S.R.L
HARDY EXPLORATION & PRODUCTION (INDIA) INC..
HOCHTIOF AKTIENGESELLSHARFF VORM GFBR HELFMANN
EPSON SINGAPORE PVT LTD

CARGOLUX AIRLINES INTERNATIONAL S A
CHO HEUNG ELECTRIC INDUSTRIAL COMPANY LIMITED
NYCOMED ASIA PACIFIC PTE LIMITED

```
# This Python 3 environment comes with many helpful analytics libraries installed

# It is defined by the kaggle/python Docker image: https://github.com/kaggle/docker-python
# For example, here's several helpful packages to load

import numpy as np # linear algebra
import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)

# Input data files are available in the read-only "../input/" directory
# For example, running this (by clicking run or pressing Shift+Enter) will list all files under the input directory

import os
for dirname, _, filenames in os.walk('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, filename))

# You can write up to 20GB to the current directory (/kaggle/working/) that gets preserved as output when you create a version using "Save & Run All"
# You can also write temporary files to /kaggle/temp/, but they won't be saved outside of the current session
```

```
/kaggle/input/monthly-list-of-legal-entities-registered-in-india/2021_april_registered_companies.csv
```

In [2]:

```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

In [3]:

```
df=pd.read_csv("../input/monthly-list-of-legal-entities-registered-in-india/2021_april_registered_companies.csv")
```

In [4]:
```
linkcode
df.head()
```

company_name	date_of_registration	month_name	state	roc	category	class	company_type	activity_code	activity_description	
0	ANTON LOGISTICS PRIVATE LIMITED	19/04/21	Apr-21	Tamil Nadu	RoC-Chennai	Company limited by Shares	Private	Non-govt company	63030	Transport, storage and Communications
1	TOURNAFEST GAMING PRIVATE LIMITED	29/04/21	Apr-21	Rajasthan	RoC-Jaipur	Company limited by Shares	Private	Non-govt company	72900	Business Services
2	LINGOWORLD TRANSLATION AND INTERPRETATION SERV...	19/04/21	Apr-21	Maharashtra	RoC-Mumbai	Company limited by Shares	Private	Non-govt company	72900	Business Services
3	SCT AGARBATTI PRODUCER COMPANY LIMITED	19/04/21	Apr-21	Bihar	RoC-Patna	Company limited by Shares	Private	Non-govt company	1100	Agriculture and Allied Activities
4	PUDUKUDI PRIVATE LIMITED	19/04/21	Apr-21	Tamil Nadu	RoC-Chennai	Company limited by Share	Private	Non-govt company	52609	Trading

company_name	date_of_registration	month_name	state	roc	category	class	company_type	activity_code	activity_description	
						s				

df.shape

Out[5]:

(12554, 10)

In [6]:

df.info()

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 12554 entries, 0 to 12553

Data columns (total 10 columns):

#	Column	Non-Null Count	Dtype
0	company_name	12554 non-null	object
1	date_of_registration	12554 non-null	object
2	month_name	12554 non-null	object
3	state	12554 non-null	object
4	roc	12554 non-null	object
5	category	12554 non-null	object
6	class	12554 non-null	object
7	company_type	12554 non-null	object
8	activity_code	12554 non-null	int64
9	activity_description	12554 non-null	object

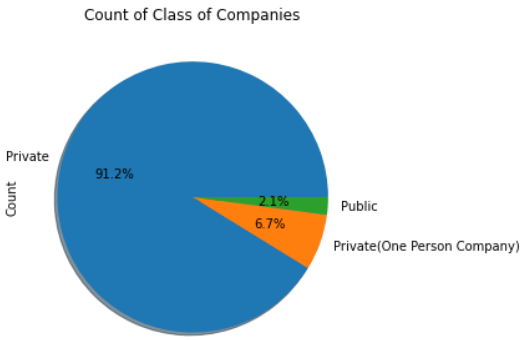
dtypes: int64(1), object(9)
memory usage: 980.9+ KB

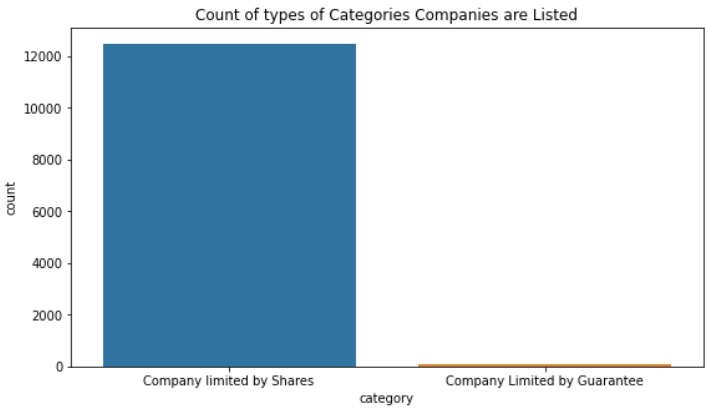
In [7]:

sns.heatmap(df.corr())


```
fig,ax=plt.subplots(1,2,figsize=(20,5))
df['class'].value_counts().plot.pie(explode=None,ax=ax[0],autopct='%1
.1f%%',shadow=True)
ax[0].set_title("Count of Class of Companies")
ax[0].set_ylabel("Count")

sns.countplot("category",data=df,order=df['category'].value_counts().i
ndex)
ax[1].set_title("Count of types of Categories Companies are Listed")
plt.show()
```


Count of Class of Companies
Private
91.2%
2.1%
6.7%
Public
Private(One Person Company)
Count


Count of types of Categories Companies are Listed
12000
10000
8000
6000
4000
2000
0
count
Company limited by Shares
Company Limited by Guarantee
category