

## DATA ANALYTICS

Data analytics is the science of examining raw data with the purpose of finding patterns and drawing conclusions about that information by applying an algorithmic or mechanical process to derive insights. According to Forbes, the Big Data analytics market will surpass \$200 billion soon.

Today shrinking margins and rising costs have forced corporations to look to adopt and adapt newer digital technologies. One such technology is Data Science. As per the various stalwarts of the world economy, Data has replaced oil as the most valuable commodity. It has the potential to provide for a seamless interaction between the various stakeholders in this quest for energy. Using Data Science our key decision makers can view the entire spectrum of hydrocarbon value chain to make better informed data-driven decisions. The immense opportunities that data science holds for improving well productivity, field profitability and ultimately improving the supply of energy is truly gargantuan. Especially in this era of rapid and sustained decline in the price of crude, there is a significant need to optimize every process to extract extra units of fuel. Team will learn the Data Analysis techniques and solve real world data science problems.

Our project deals with data analytics in the field of oil and gas sector. As per research it is found that vast amount of the data in industry is yet underutilized. So in our project we aim to study the raw data from oil and gas sector and draw out fruit full conclusions.

For example: we study data of oil spills, accidents on oil field or data of oil well age, etc. On basis of studying above data we may form solutions on certain questions which might be framed for welfare of the sector.

Certain questions are-

- 1-Which liquid was most prone to ignition?
- 2-At which place the pipeline shutdown duration was most?
- 3-What was main cause of accident?
- 4-Which year was the year of highest crises?
- 5-In which accident did maximum amount of leakage took place due to manmade causes?
- 6-Which is highest accident prone location latitude and longitude wise?
- 7-Which pipeline type is most risky?
- 8-Which pipeline type should be preferred, above ground or underground?
- 9-Which operator was most faulty?
- 10-What is pipeline location?
- 11-Which operator was of best quality?

- 12-Which pipeline is most affected?
- 13-Which operator's pipeline is most affected?
- 14-What is net loss of oil per year?
- 15-What is most probable cause of accident?
- 16-Net loss due to each accident?
- 17-Which type of pipeline is responsible for accident occurred ?
- 18-In which city did accident occurred?
- 19-Which type of category or sub category is responsible for accident?
- 20-Which operator is responsible for maximum accident?
- 21-Which time of the year had been most accident prone?
- 22-Which season in year is most risky for oil extraction?
- 23-Which continent has provided maximum loss?
- 24-Which operator is relatively safer in terms of liquid recovery?
- 25- Which incident required maximum remediation costs?
- 26-How many barrels of oil get recovered every year?
- 27- Where has been maximum property damage cost and lost commodity cost?
- 28-In which month and city most accidents take place on an average?
- 29-At how many places tank pipeline caused the damage?
- 30-What are the major causes behind the casualties?
- 31-Which country has suffered highest loss?
- 32-What is net loss and recovery in every month?
- 33-Which year was year of maximum loss and recovery?
- 34-Which operator should not be given contract?
- 35-In which temperature condition accidents are most prone?
- 36-What climatic conditions are most suitable for oil extraction?
- 37-Working with what type of pipeline above ground or underground we need to be more carefully?

And many more such questions are possible which may serve an important and useful source for this sector development.

Our team members are -

1-Ayush Srivastava

2-Chandrahas Verma

3-Amir Menon

4-Rohan Jindal

5-Siddarth Aggarwal

6-Yash Raj

7-Kumar Gaurav

8-Shivam Singh

9-Manoj Gupta