# Energy, Oil & Gas Domain

Domain Specialization & Project Expertise

# In Energy, Oil & Gas

**6 Industry Relevant Projects**

**20+ Case Studies & Assignments**

**100% Interview Guarantee**

✅ Leverage your cutting-edge data science skills to outshine competitors in the dynamic energy, oil, and gas sector. Stand out with expert data analysis.

✅ Master data analysis to become recruiters' top pick. Enhance decision-making skills for prospects, clients, products, markets, and team success.

✅ Accelerate your leadership journey, master your niche faster, and unlock greater value, conversions, and irresistible propositions.

# Who Can Apply?

### Executive level Professional

Working professionals with a mid-level experience in the energy, oil, and gas industries can excel as an executive-level Data Science professional

### Professionals interested in Oil, Gas & Energy Sector

Aspiring individuals from the energy, oil, and gas sector, with limited coding expertise can achieve their tech dreams through our Non-Programmers' Special Assistance

### Experienced Professionals at Leadership Roles

Experienced professionals in the oil, gas & energy sector seeking a rewarding career transition while maintaining their current roles can choose this data science domain elective

# Tools & Modules

**Python**

**SQL**

**Tableau**
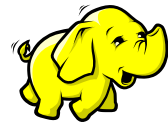
**PowerBI**

**R**

**MongoDB**

**Tensorflow**

**Hadoop**

**Apache Spark**

**Azure**

**Git**

**GitHub**

# Transition Process

Transforming 30k+ careers with staggering 250% salary boosts and an exceptional 175% average hike.

## Get IBM Course Completion Certificate

Complete the most sought-after program, get IBM's course certificate, and elevate your skills to new heights!

## Flexible Learning with Hands-On Exposure

Get immersive experiences for unparalleled learning through practical engagement taught by industry experts

## Unlock Limitless Career Opportunities

Conquer the tech domain and open the gateway to boundless career prospects with 250% salary hike

## Master Key Skills to Excel

Learn essential skills and industry insights for a remarkable career transition that propels you to excellence.

## Enrol in our Program

Supercharge your career by enrolling in our industry-relevant program, designed to shape your professional trajectory.

# What Will You Learn?

In this elective, candidates will learn about the application of data science in the energy oil and gas sector.

Here are a few examples of data science's applications in the engineering, oil, and gas sectors to assist you in better understanding how it is used:

## ENERGY SECTOR

- Smart Grid security and theft detection
- Detection and prediction of a power outage.
- Power Failure Prediction
- Dynamic Energy Management
- Failure probability modeling

**Project Life Cycle Expertise**
with 2 Capstone Projects

## OIL & GAS SECTOR

- Optimization of the upstream, midstream, and downstream
- Continual Predictive and Preventive Maintenance
- Boosting Offshore Activities
- Analyzing seismic and microseismic data,
- Enhancing reservoir characterization and modeling
- Decreasing drilling time and boosting drilling safety

# Domain Training

In this elective, candidates will learn about the application of data science in the energy oil and gas sector.

## Module 1

### Role of Analytics and Data Science in Energy Sector

Here we will learn about -

- How applying Data Analytics helps to estimate performance and offer intelligent energy management suggestions in Dynamic Power management.
- How to identify the right value and metrics for power outage and detection.
- How to build Power failure probability model application which is an essential part of companies' decision making process.

## Module 2

### Role of Analytics and Data Science in Oil & Gas Industry

Here we will learn about -

- How Data science may assist in minimizing risk and learning more about each subsystem, thus improving decision-making accuracy.
- How Data Science can help in achieving high accuracy in Drilling Methods and Oil Exploration.
- How using Data Science and analytics can Ensure Efficient Performance of Machines.

# Domain Specalized Projects

**Energy Domain**

## Developing Failure Prediction Model

The energy sector has embraced failure probability modelling. The effectiveness of machine learning algorithms in predicting failure is undeniable. The active use of probability modelling aids in improving performance, predicting infrequent breakdowns in operation, and lowering maintenance costs.

Energy businesses spend a lot of money on maintaining and ensuring that their equipment and gadgets work properly. They suffer significant financial losses as a consequence of unanticipated failures in their operations.

Furthermore, the situation becomes serious for individuals who depend on these businesses for their energy. As a consequence, the energy provider's overall dependability and reputation may deteriorate.

The failure probability model application's output is an important component of a company's decision-making process.

**Oil & Gas Domain**

## Developing Model for High Accuracy in Drilling Methods and Oil & Gas Exploration

Because oil relies on drilling and field exploration, any application of big data analytics in this sector is seen as a benefit.
Big-data analytics in the oil sector may lead to new oil drilling sites and new methods to boost shale oil production, to name a few advantages.

Modern analytical tools like seismic software, data visualization, and ubiquitous computer devices are now being used by oil companies.

# Domain Specalized Projects

### Energy Domain

#### Developing Smart Grid Security and Theft Detection Model

Energy theft is likely to be one of the most costly forms of theft. As a result, energy firms go to considerable lengths to avoid it.

With smart grids, energy theft is often accomplished by tapping directly into the distribution cable. To anticipate and avoid energy theft and, as a consequence, financial loss, large energy firms and enterprises monitor energy flows and respond quickly to any suspicious activity.

For this reason, business owners are increasingly turning to Advanced Metering Infrastructures, which can report on energy use and be controlled remotely. Security solutions for smart grids are becoming more popular.

These solutions may be behavior-based, in which case they continuously monitor users' activities in order to identify hackers and reveal their planned intentions.

### Oil & Gas Domain

#### Developing model for ensuring optimum and efficient performance of machines

Drilling for oil is a continuous operation, and equipment must operate for extended periods of time in extreme temperatures and conditions.

Big data is utilized to verify that machines are in good operating order and do not suffer from breakdowns or malfunctions.
Sensors are installed on machines to collect data about their performance.

This data is then compared to the aggregated data to ensure that components are replaced quickly and downtime is kept to a minimum, thus lowering costs.

Finding and producing more hydrocarbons at reduced prices in ecologically sound and economically sound methods may not only add value to data but also aid in correct decision-making.

# FAQs

**?** **Can I select multiple domain electives?**

You can select multiple electives based on your career goal and work experience/academics.

**?** **What if I don't have any prior experience in any domain?**

Even if you don't have any prior experience, you can still opt for any elective.

**?** **Can I change my domain electives later ?**

Yes, you can change your elective or repeat the training later within the Course Accessibility Duration.

**?** **Are there any additional charges for electives?**

No, there are no additional/ hidden charges.

## STILL CONFUSED?

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