



MACHINE LEARNING & ARTIFICIAL INTELLIGENCE
COURSES LIST

WE DELIVER KNOWLEDGE WITH EXCELLENCE

MACHINE LEARNING & ARTIFICIAL INTELLIGENCE



Make a big impact with our professional team



Phone:

Call: +966 – 0138130205



Email:

Email: salah@smarththinking.com.sa



Location:

Location: Smart Thinking Company, 3rd Floor,
7353 Bashar Ibn Burd St, Olaya, Al Khobar, KSA



Our Cross-disciplinary team also deliver AI-powered services for developing and operating large-scale predictive data analytics for turn-key AI applications.

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WE ARE:

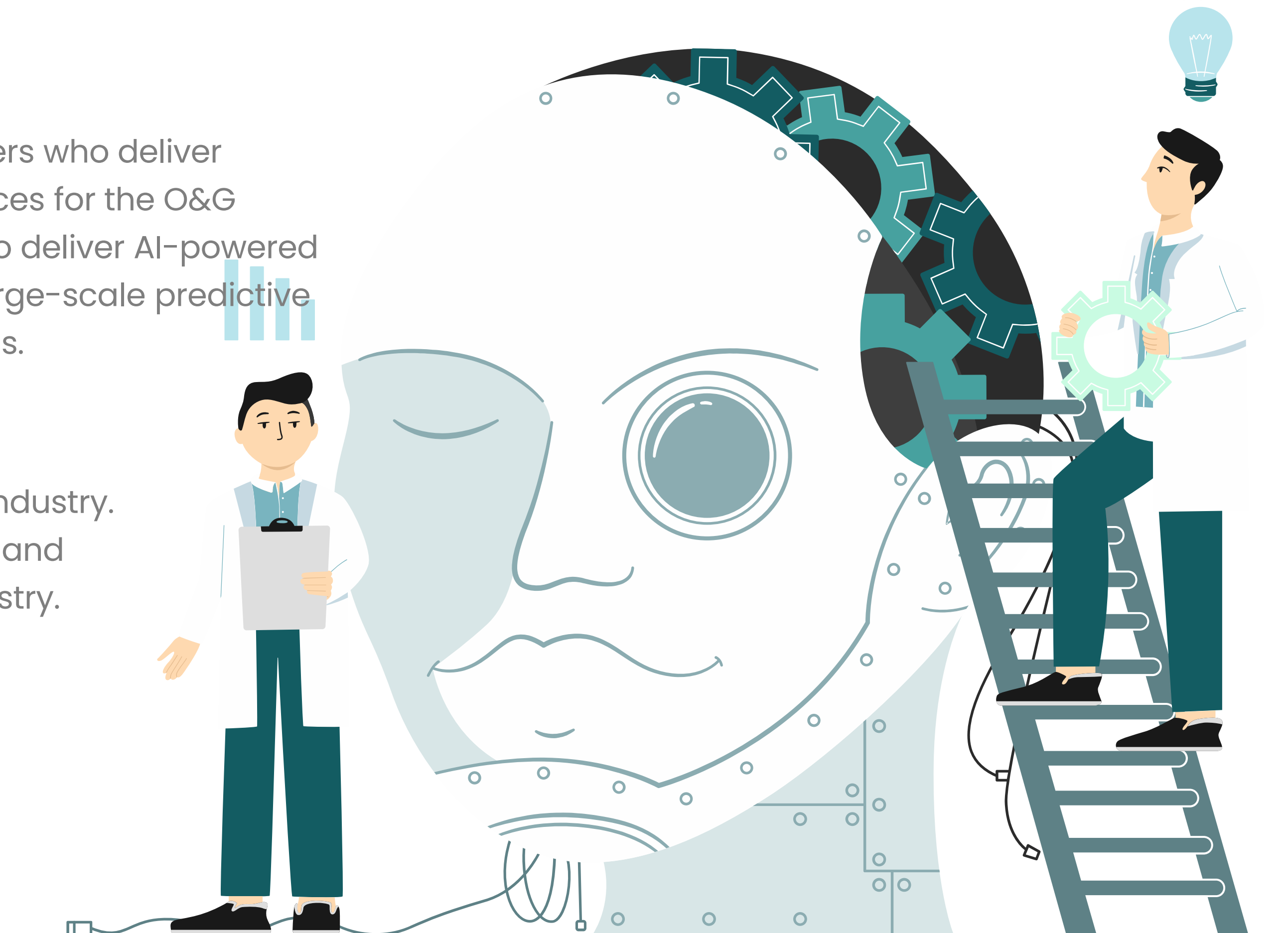
A highly professional SMEs and PhD holders who deliver technical training and consultation services for the O&G industry. Our cross-disciplinary team also deliver AI-powered services for developing and operating large-scale predictive data analytics for turn-key AI applications.

OUR GOALS:

Deliver comprehensive training for O&G Industry.
Delivering predictive intelligence using AI and
Improving the outcomes of the O&G industry.

OUR SERVICES:

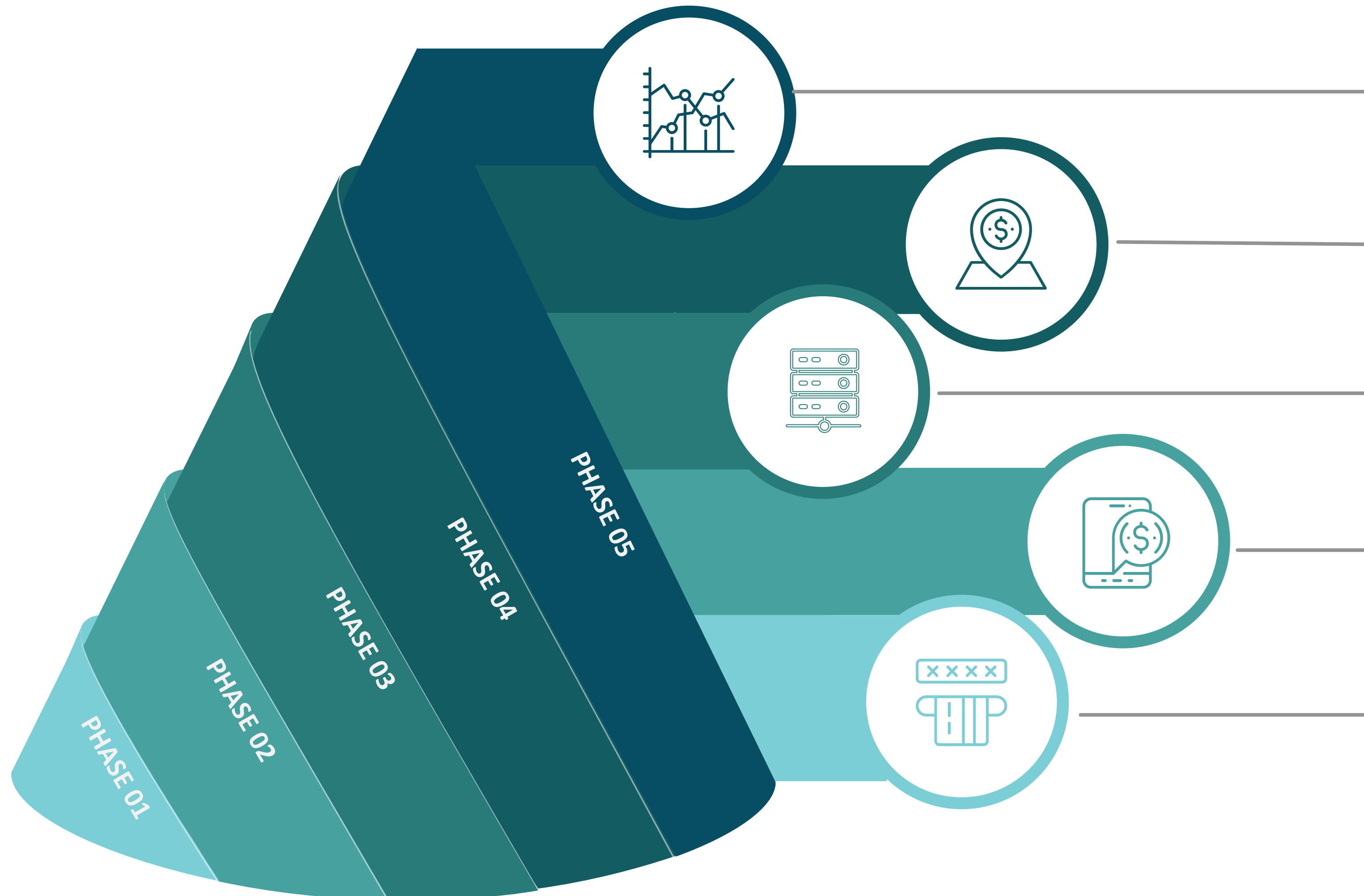
Training Program
AI-Powered Program
R&D Program



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AI & ML for Business executives

Digital Transformation Technologies & Impact

Data Analytics

Big Data to drive performance

Advanced level

Machine Learning Courses for O&G Industry

Intermediate level

Machine Learning Courses for O&G Industry

Introductory level

Machine Learning Courses for O&G Industry

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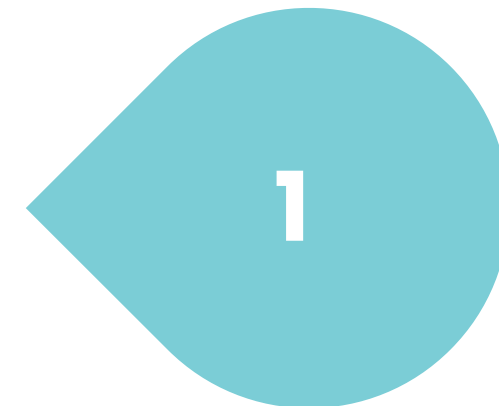
Machine Learning Courses
for O&G Industry

AI & ML for Business executives

Digital Transformation
Technologies & Impact

Machine Learning Course

Introductory level



Introduction to Machine Learning in Petroleum Engineering

Definition Of 4.0 IR, Overview of machine learning concepts and terminology, Data scientist vs data engineer vs data analyst, The life cycle of a data-driven project, Introduction to supervised and unsupervised learning, Recent applications of data science in petroleum engineering (drilling - reservoir - production disciplines) and its impact on the industry.



Data preprocessing and visualization

Data acquisition and quality control

Exploratory data analysis and visualization techniques

Handling missing data and outliers



Regression and Classification Techniques

Linear regression and polynomial regression

Logistic regression for binary and multiclass classification

Evaluation metrics for regression and classification models

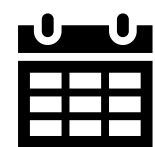


Model Evaluation and Validation

Training, validation, and testing datasets

Cross-validation techniques

Model performance evaluation metrics



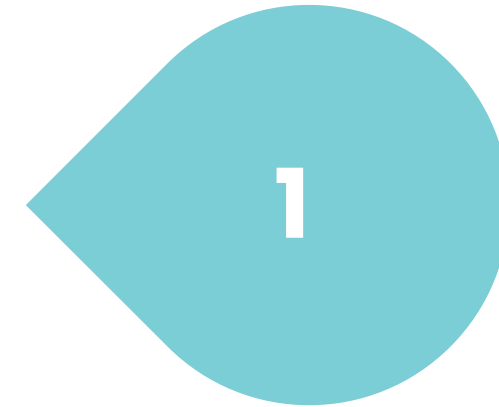
5 days



8 hrs/day

Machine Learning Course

Intermediate level

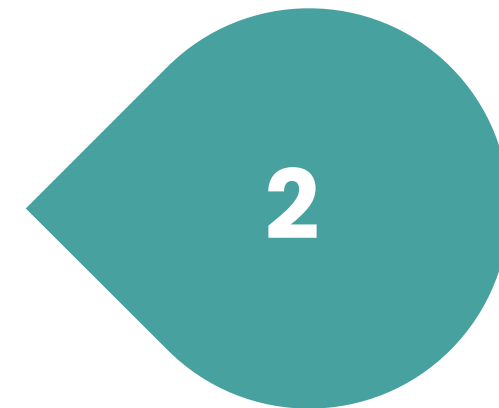


Ensemble Methods and Decision Trees

Bagging and boosting techniques

Random forests and gradient-boosting algorithms

Decision trees for reservoir characterization and production optimization



Feature Engineering and Selection

Feature extraction and transformation techniques

Dimensionality reduction methods (e.g., PCA)

Selecting relevant features for modelling



Clustering and Unsupervised Learning

K-means clustering and hierarchical clustering

Density-based clustering algorithms

Dimensionality reduction with techniques

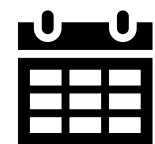


Model Selection and Hyperparameter Tuning

Model selection strategies (e.g., grid search, random search)

Hyperparameter tuning techniques

Avoiding overfitting and underfitting



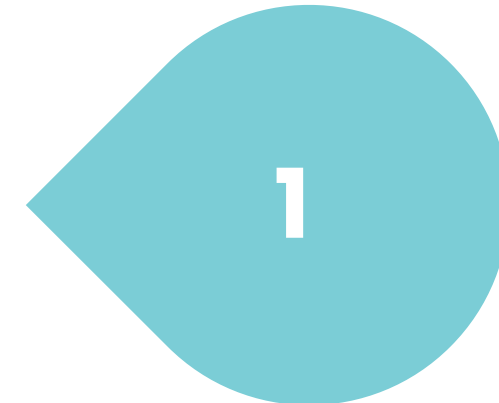
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Machine Learning Course

Advanced level

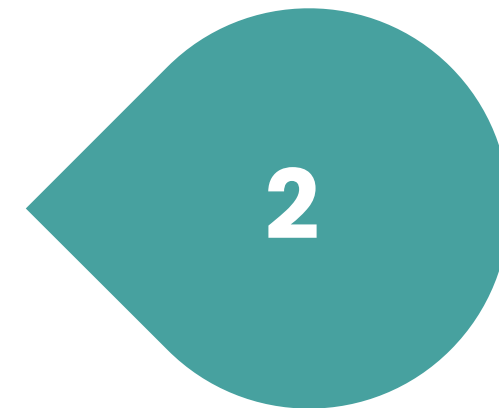


Advanced Regression Techniques

Support Vector Machines (SVM) for regression

Regularization techniques: L1, L2, and Elastic Net

Kernel regression methods



Neural Networks and Deep Learning

Basics of neural networks and deep learning architectures

Convolutional neural networks (CNNs) for image analysis

Recurrent neural networks (RNNs) for time series data



Advanced networks

Advanced deep neural network architectures

Generative Adversarial Networks (GANs)

Autoencoders for feature learning and anomaly detection

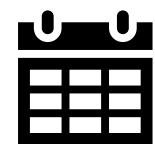


Natural Language Processing (NLP) for Petroleum Text Data

Text processing and feature extraction techniques

Word embeddings and document classification

Sentiment analysis and topic modeling for petroleum-related texts



5 days



8 hrs/day

Machine Learning Course

Advanced level



5

Reinforcement Learning for Decision-Making

Introduction to reinforcement learning concepts

Q-learning and value iteration algorithms

Applications of reinforcement learning in reservoir management

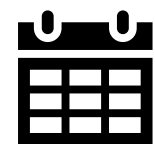
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Time Series Analysis and Forecasting

Time series data preprocessing

ARIMA models for time series forecasting

Long Short-Term Memory (LSTM) networks for time series analysis



5 days



8 hrs/day

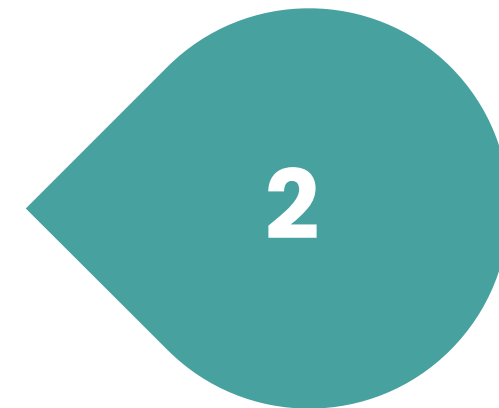
Data Analytics

Big Data to drive performance



Exploratory Data Analysis

Learn how to find and analyse the patterns in the data to draw actionable insights. Interpret data to inform business decisions, Recognize trends, detect outliers, summarize data sets., Analyze relationships between variables



Inferential Statistics

Build a strong statistical foundation and learn how to 'infer' insights from a huge population using a small sample.



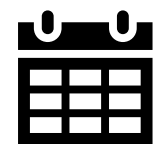
Hypothesis Testing

Understand how to formulate and validate hypothesis for a population to solve real-life business problems. Also, explain recommendations in lieu of the analysis conducted.



Single & Multiple Variable Linear Regression

Analyze the relationship between two variables and develop forecasts for values outside the data set. Identify relationships among three or more variables to improve understanding of data and provide better forecasts.



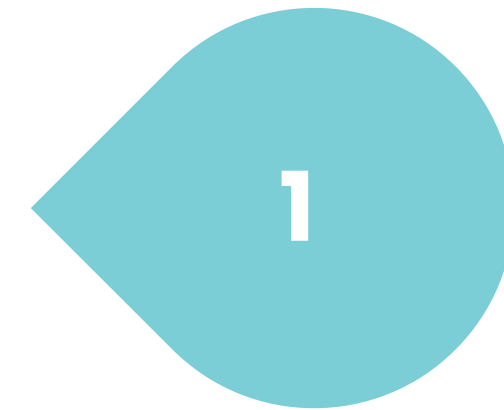
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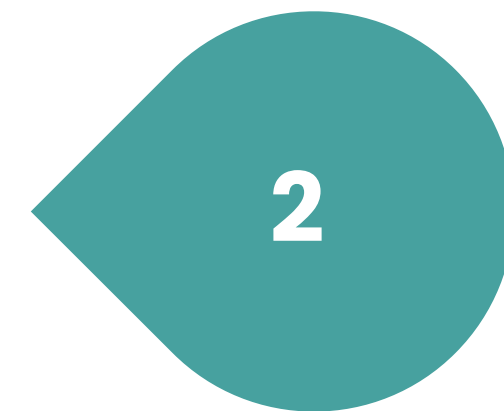
AI & ML for Business executives

Digital Transformation Technologies & Impact



Introduction to Digital Transformation

Deduce how to gain strategic advantage using different kinds of Artificial Intelligence and Machine Learning.



AI & ML in Business

An in-depth understanding of Machine Learning and Artificial Intelligence enables to make informed decisions about how best to utilize these powerful tools for the organization's benefit



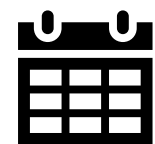
Robotics and digital twin in Business

Evaluate the appropriateness of a business application for robotics and digital twins.



Future of Artificial Intelligence

Develop a road map for an organization to gain strategic advantage through the use of artificial intelligence.



5 days



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Q&A

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Visit us

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Saudi Arabia

Thank You.

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