

Machine Learning for Enhanced Oil Recovery (EOR) Strategies

Lyon (France)

28 June - 2 July 2027

UK Training

PARTNER



Machine Learning for Enhanced Oil Recovery (EOR) Strategies

Code: OG32 From: 28 June - 2 July 2027 City: Lyon (France) Fees: 5900 Pound

Introduction

The integration of machine learning ML into Enhanced Oil Recovery EOR strategies is revolutionizing petroleum engineering. By leveraging predictive models, real-time data analytics, and advanced optimization algorithms, companies can maximize oil extraction, reduce operational risks, and improve cost efficiency. This course equips participants with the skills to design, implement, and evaluate ML-based EOR solutions, empowering them to transform traditional recovery methods into data-driven, high-performance operations.

Course Objectives

- Understand the fundamentals of Enhanced Oil Recovery and its methods.
- Apply machine learning techniques to optimize EOR processes.
- Analyze geological, petrophysical, and production data effectively.
- Build predictive models for reservoir performance forecasting.
- Integrate real-time sensor data for adaptive recovery strategies.
- Assess the economic impact of ML-enhanced EOR projects.
- Implement automation in monitoring and decision-making.
- Identify and mitigate operational risks using data-driven insights.

Course Outlines

Day 1: Fundamentals of EOR and Machine Learning Applications

- Overview of primary, secondary, and tertiary oil recovery.
- Role of EOR in maximizing petroleum production.
- Introduction to machine learning in the oil and gas sector.
- Data types and sources in EOR operations.
- Challenges of traditional EOR methods.
- Case study: Comparing conventional vs. ML-driven EOR.

Day 2: Data Acquisition, Cleaning, and Feature Engineering

- Gathering geological, reservoir, and production data.
- Data preprocessing and handling missing values.
- Feature selection for reservoir modeling.
- Merging multiple datasets for model training.
- Sensor integration and IoT applications in EOR.
- Practical exercise: Creating a clean dataset for ML modeling.

Day 3: Predictive Modeling for Reservoir Performance

- Introduction to supervised and unsupervised learning for EOR.



- Building regression and classification models.
- Time-series forecasting for production rates.
- Early detection of well performance issues.
- Evaluating model accuracy and reliability.
- Practical exercise: Training a predictive model for oil recovery.

Day 4: Optimization and Automation of EOR Operations

- Applying optimization algorithms to maximize recovery.
- Automated decision-making using reinforcement learning.
- Real-time adaptive control of injection rates.
- Integration of predictive analytics into field operations.
- Risk mitigation through predictive maintenance.
- Practical exercise: Developing an ML-driven optimization plan.

Day 5: Project Evaluation and Continuous Improvement

- KPIs for EOR project success.
- Economic feasibility studies for ML-based EOR projects.
- Updating models with new operational data.
- Lessons learned from successful implementations.
- Building a roadmap for future EOR optimization.
- Practical exercise: Presenting a complete ML-based EOR project plan.

Why Attend this Course: Wins & Losses!

- Gain expertise in applying ML to petroleum engineering.
- Optimize recovery rates and extend field life.
- Reduce operational costs through automation.
- Improve prediction accuracy for reservoir behavior.
- Enhance decision-making with real-time analytics.
- Learn from real-world case studies and hands-on exercises.
- Develop strategies for sustainable production.
- Stay ahead with the latest AI and ML advancements in oil recovery.

Conclusion

Machine learning is redefining the boundaries of Enhanced Oil Recovery by enabling smarter, faster, and more accurate decision-making.

This course offers the tools, techniques, and practical knowledge needed to implement ML-driven EOR strategies that can significantly boost efficiency, reduce costs, and ensure long-term production sustainability.



Blackbird Training Clients



MANNAI Trading
Company WLL,
Qatar



Alumina Corporation
Guinea



Booking.com
Netherlands



Oxfam GB International
Organization,
Yemen



Capital Markets
Authority,
Kuwait



Waltersmith Petroman Oil Limited
Nigeria



Qatar National Bank
(QNB),
Qatar



Qatar Foundation,
Qatar



AFRICAN UNION ADVISORY
BOARD ON CORRUPTION,
Tanzania



KFAS
Kuwait



Reserve Bank of
Malawi,
Malawi



Central Bank of Nigeria
Nigeria



Ministry of Interior
Kingdom of Saudi Arabia
KSA



Mabruk Oil Company
Libya



Saudi Electricity
Company,
KSA



BADAN PENGELOLA
KEUANGAN Haji,
Indonesia



NATO
Italy



ENI CORPORATE
UNIVERSITY,
Italy



Gulf Bank
Kuwait



المؤسسة العامة للتأمينات الاجتماعية
General Organization for
Social Insurance
KSA



Defence Space Administration
Nigeria



National Industries
Group (Holding),
Kuwait



Hamad Medical
Corporation,
Qatar



USAID
Pakistan



STC Solutions,
KSA



North Oil company,



EKO Electricity



Oman Broadband



UNITED NATIONS
UN.



هيئة تنظيم الكهرباء - عمان
Authority for
Electricity Regulation, Oman

UK Training
PARTNER



Blackbird Training Categories

Management & Admin

Entertainment & Leisure
Professional Skills
Finance, Accounting, Budgeting
Media & Public Relations
Project Management
Human Resources
Audit & Quality Assurance
Marketing, Sales, Customer Service
Secretary & Admin
Supply Chain & Logistics
Management & Leadership
Agile and Elevation

Technical Courses

Artificial Intelligence (AI)
Sustainability, ESG & Corporate Responsibility
Advanced Courses
Hospital Management
Public Sector
Special Workshops
Oil & Gas Engineering
Telecom Engineering
IT & IT Engineering
Health & Safety
Law and Contract Management
Customs & Safety
Aviation
C-Suite Training

