

Seismic Data Intelligence: Machine Learning for Faster, Smarter Exploration

COURSE OVERVIEW

This course introduces participants to the intersection of geoscience and artificial intelligence. The course examines the role played by advanced machine learning techniques in revolutionizing seismic data processing, interpretation, and decision making in exploration projects. Through a blend of theory, practical demonstrations and case studies, participants will discover how to harness machine learning algorithms for noise reduction, pattern recognition, fault detection and reservoir characterization ultimately driving faster and smarter exploration outcomes.

WHO SHOULD ATTEND?

This course is designed for geoscientists, exploration engineers, data scientists, and energy sector professionals who work with seismic data and seek to integrate machine learning into their workflows. It also benefits decision-makers, project managers, and technical leaders who want to understand the opportunities and applications of AI in seismic exploration to improve efficiency, reduce risks, and enhance competitive advantage.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Apply machine learning techniques to seismic data analysis and interpretation.
- Identify how AI enhances efficiency in exploration workflows.
- Leverage ML models for seismic attribute extraction and reservoir characterization.
- Understand challenges, limitations, and best practices of integrating AI into seismic projects.
- Evaluate real-world case studies to connect theory with practical application.
- Develop strategies to automate seismic data processing for faster decision-making.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Introduction to machine learning applications in geoscience and exploration.
- Insights into reservoir prediction and uncertainty reduction through AI.
- Guidance on ethical, technical, and organizational considerations in deploying AI solutions.
- Hands-on demonstrations with seismic datasets and ML models.
- Practical methods for data preprocessing, noise attenuation, and fault detection.
- Case studies showcasing successful applications in the energy industry.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded