

Augmenting the Geoscientist: Utilizing the Power of AI and Machine Learning for Geoscience

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Machine learning and deep learning are giving geoscientists new ways to interpret seismic and well-log data, identify subtle geological features, and manage increasingly complex datasets.

This presentation introduces workflows within the Paradise® AI workbench, including seismic attribute generation, automated fault detection, and lithofacies prediction using Self-Organizing Maps (SOMs). These methods are connected to real-world case studies from the Niobrara Formation, West Desert Egypt, and offshore India, demonstrating their application across a range of geological settings.

The session also looks at emerging applications for large language models and agentic AI in geoscience, including their potential roles in interpretation, data quality control, and workflow management. The presentation focuses on practical results such as faster reservoir characterization, improved resolution of thin beds, and more consistent interpretation workflows.