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Perspective

Machine Learning Methods for Oil Recovery Prediction

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PERSPECTIVE

In recent years, machine learning methods have been widely used in various fields of science for big data processing. The application of machine learning in the oil industry is also actively expanding. Machine Learning can improve drilling operations. Applying Machine Learning in oil & gas to Improve Subsurface Characterisation might play a crucial role in fuel extraction. One of the most noticeable impacts of machine learning in oil & gas focused industries is how it transforms discovery processes.

Applications employing machine learning in oil & gas enable computers to quickly and accurately analyse huge amounts of data. This includes being able to sift precisely through signals and noise in seismic data.

After this information has been gathered and analysed modern software applications can construct accurate geological models. This allows operatives to predict, accurately, what is beneath the surface before drilling has begun. Applying AI and machine learning in oil & gas industries will improve operations. This will occur by enabling effective decision-making processes and optimizing drilling operations. By constructing complex models, based on collected data, AI will learn from past operations. This will allow the technology to learn and improve as more data is recorded.

The more we implement AI and machine learning in oil & gas industries, the better the potential to revolutionise workflow. To solve oil recovery problems, it is necessary to use geological models of reservoir fields. With increasing of the reservoir model complexity (size), the computing time also increases. Therefore, it takes longer to predict oil recovery. There are two approaches to solve this problem. The first approach is to develop an effective parallel algorithm taking into account the heterogeneity of computing systems. Many scientists from all over the world are developing parallel algorithms in this field. The disadvantage of using this approach is that when you change the initial data for the oil recovery prediction, you need to make calculations on supercomputers every time, which takes a lot of time and resources. The second approach is to use machine learning methods, which is the purpose of this paper. In current years, machine learning techniques have been broadly used in number fields of science for massive records processing. The software of computing device getting to know in the oil enterprise is additionally actively expanding.

Machine Learning can Improve Drilling Operations. Applying Machine Learning in oil & fuel to Improve Subsurface Characterisation may play a fundamental position in gas extraction.

One of the most substantial influences of desktop mastering in oil & fuel targeted industries is how it transforms discovery processes. Applications using computer studying in oil & gasoline enable computer systems to rapidly and precisely analyse big quantities of data. This consists of being capable to sift exactly thru alerts and noise in seismic data.

After this records has been gathered and analysed current software program purposes can assemble correct geological models. This approves operatives to predict, accurately, what is underneath the floor earlier than drilling has begun.

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