**Topics:**

Forecasting Time Series, Case of study Forecasting Gas Rate for various Oil and Gas Well

**Team Member:**

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**Background of the project:**

Forecasting future oil and gas production for a well is one of the most important tasks of a reservoir engineer. These production forecasts are used for estimating remaining reserves, optimizing production operations and business planning, among other tasks.

With little regard for reservoir physics, reservoir engineers began predicting future well performance with simple curve fits to production data early in the twentieth century. These early empirical methods were summarized and extended in a semi-empirical, semi-rigorous method based on assumptions about the well and the reservoir it is draining by Arps in 1944. Nowadays, company starting to use ML to forecast the production rate.

Similar technique can be implemented in various fields which involved time series data to do the short term forecasting from previous time series data.

**Solution/Aim**

* Import and analyse the data and perform EDA
* Perform feature engineering
* Split the data to train/test samples
* Use the train dataset to predicting/forecasting the Gas Rate, save the model
* Export the test dataset as JSON and the model to flask
* Use the test data for prediction/forecasting and visualization

**Source of Data:**

* Petroleum Exploration Society of Australia (PESA) course material

Audience:

* For Oil Service Company
* Engineers,
* Management

**Dashboard Sample** 