## Aim

Using no code AutoML create a classification model, capable of predicting if a sample of water is portable.

Dataset: <https://www.kaggle.com/datasets/adityakadiwal/water-potability>

## Approach

1. Use AWS SageMaker AutoPilot to perform the given tasks

Prerequisites:

1. Create an AWS account
2. In AWS go to SageMaker > Studio
3. Create a S3 bucket and upload the data on which you want to train the model on inside the S3 bucket
4. Create a new Domain
5. Add a new user
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6. Lauch a Jupyter Server

## Steps

1. Launch SageMaker Studio then Select AutoML

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1. Create a new AutoML experiment

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1. Give the experiment a name, provide the location inside S3 where the data is saved, and allow auto create output location so that all artifacts can be saved

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1. From the data uploaded select which column is the target column and which columns are the feature columns

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1. Select Training and Algo Selection as “Auto”

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1. If you want you can enable auto deploy, which will deploy the best model as an API, on SageMaker Endpoints.

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1. Review all your details and “Create Experiment”

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1. The above step will start the experiment after which AWS will do all the preprocessing and will start training various models with a goal of optimizing F1 Score (for classification problem).

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As it trains and tests new models you’ll be able to see how that particular model performs, compared to other models.

1. Once the training is complete you can further check out the details such as model explain ability , model performance of best or any trained trained models If necessary you can directly deplot the model to AWS from here.

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1. All the models will also be saved in S3, you can use that if you want to take your model some place else for deployment

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References:

[1] <https://docs.aws.amazon.com/sagemaker/latest/dg/autopilot-automate-model-development-create-experiment-ui.html>