

@datasciencedani

Machine learning

WHAT IS ML AND WHEN TO USE IT?

cartoon of girl with olive skin, brown eyes, medium light brown hair, long lashes, tiny nose, saying hi

Machine Learning

Machine Learning (ML) is a discipline within the field of Artificial Intelligence that, using **algorithms**, allows computers to **identify patterns** from data to **make predictions**.

Definition

Classical programming

Programmer makes rules

INPUTS

OUTPUTS

Machine Learning

INPUTS WITH OUTPUTS

Machine learns rules

NEW INPUTS

PREDICTED OUTPUTS

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When to use ML?

"... as trendy as ML has become, sometimes a **SQL query** or **IF statement** can accomplish the same job as an **ML model** in much less time."

Flowchart

created by GCP developer Sara Robinson

How will you use your data?

Write a SQL query

Only to analyze historical trends

To explore AND generate predictions on new data

What kind of data are you working with?

1 Videos, images, and audio

2 Text, numerical or categorical

A mix of 1 and 2

Are you working with videos, images, and audio **directly** or supplementary metadata about those files?

Supplementary metadata

The files themselves

First, use **SQL or other data analysis tools** to identify patterns between your inputs and the thing you're predicting

Could you generate predictions with some simple **IF statements** or will this rule-based approach quickly become unwieldy?

Could you generate predictions by searching for a few **keywords** in your **input text**?

Yes

No, the text patterns are more complex

Search input text for keywords in a dictionary

Is your data text or numerical/categorical?

Numerical/categorical

Text

IF statements will do the trick

Data relationships are too complex for IF statements

Probably a good fit for ML

CLICK ON

Medium

articles of the flowchart: medium.com/@srobtweets/when-should-you-use-machine-learning-part-1-b0028603ac3a and medium.com/@srobtweets/sql-or-ml-the-same-dataset-two-ways-233e611619bd

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