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Machine Learning Development Life Cycle [MLDLC]

- Frame the Problem
- Gathering Data
- Data Preprocessing
- Exploratory Data Analysis
- Feature Engineering & selection
- Model Training, Evaluation & Selection
- Model Deployment
- Testing
- Optimize

What are Tensors ?

Mostly used as containers for numbers.

What is tensor ?

Tensors are multidimensional arrays used in mathematics & physics to represent data. They generalize scalars, vectors & matrices to higher dimensions.

0D tensor ? / scalar ?

Also known as a scalar, represents single value, mathematically it has zero dimensions without any axes or directions.

1D tensor ? / Vector ?

Also known as a vector, is a tensor with one dimension.

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What are dimensions of the vectors ?

The dimensions of a vector refers to the number of elements it contains.

Ex: If we have a vector with 5 elements, it's referred to as a "5-dimensional vector"

2D Tensors / Matrices?

Also known as matrix. Has two dimensions i.e. rows & columns.

nD Tensors ?

Often referred to as an "ndarray" or simply an "array", is a generalization of scalars, vectors & matrices to a higher dimensions.

Rank = Axes

The rank tells us how many dimensions a tensor has, the axes defines those dimensions & the shape provides the size of the tensor along each axis.