**WEEK 1 ASSESSMENT**

**What is Machine Learning (ML)?**

Machine Learning (ML) is a branch of Artificial Intelligence (AI) that focuses on building systems that can learn from and make decisions based on data. Instead of being explicitly programmed, ML models improve their performance as they are exposed to more data over time.

**What is a Supervised Machine Learning Algorithm?**

Supervised Machine Learning is a type of ML where the model is trained on labeled data. This means the input data comes with corresponding output labels. The algorithm learns the relationship between inputs and outputs and uses that knowledge to make predictions on new, unseen data.

Examples include:

* Linear Regression
* Decision Trees
* Support Vector Machines

**What is Regression and Classification?**

* **Regression:** It is a type of supervised learning used when the output is a continuous value. Example: Predicting the price of a house based on size and location.
* **Classification:** It is used when the output is categorical. The model classifies data into predefined categories or classes. Example: Classifying emails as spam or not spam.

**Surya Prasad Rout**