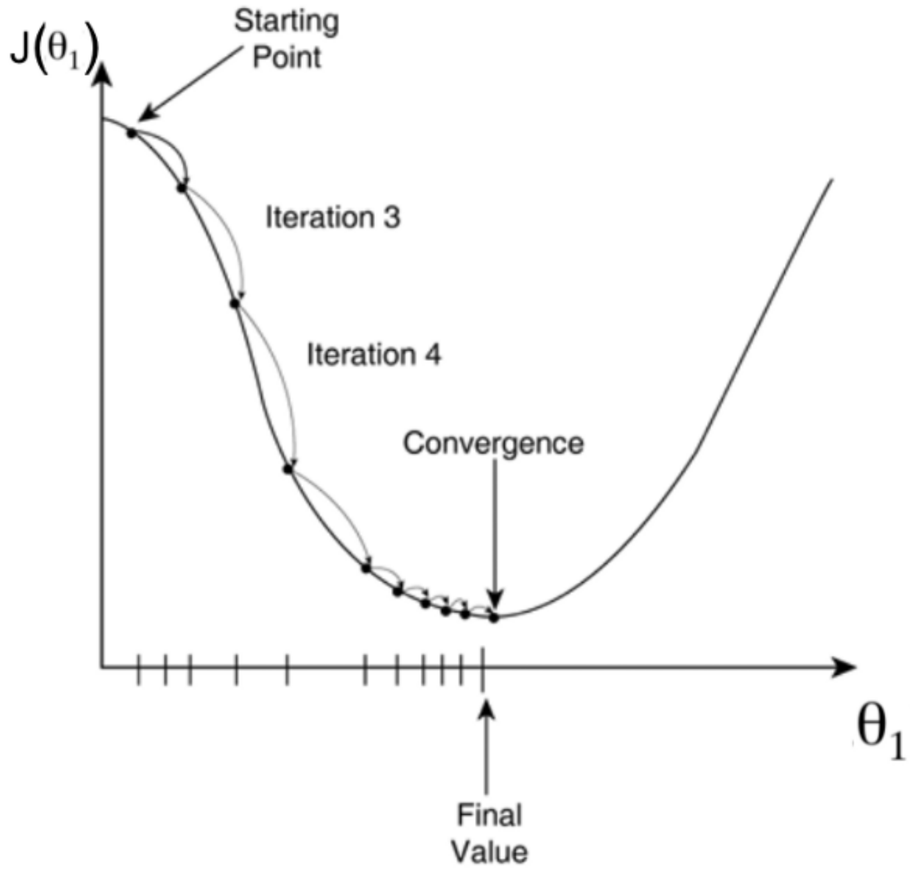
Gradient Descent

Gradient Descent

- **Gradient descent** is an optimization algorithm that is commonly used to train machine learning models and neural networks.
- Gradient Descent runs iteratively to find the optimal values of the parameters corresponding to the minimum value of the given cost function, using calculus.



#ExploreDataWithDivyanshu

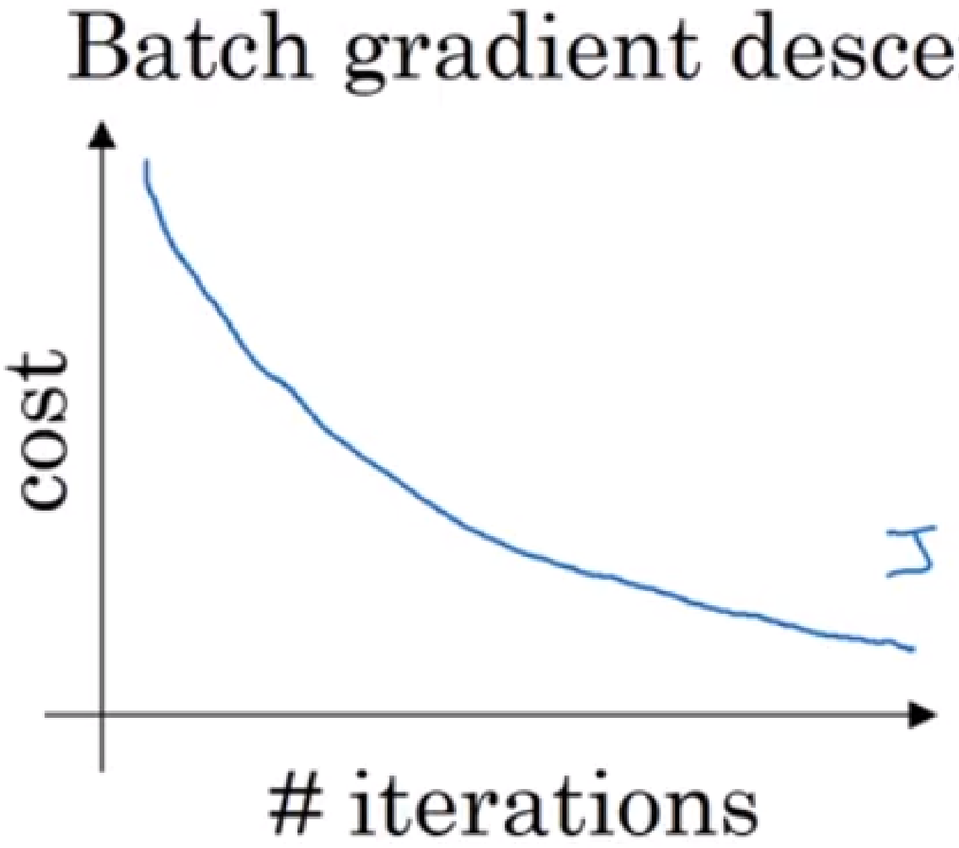
Day 13 of #66DaysOfData

Types of Gradient Descent

1. Batch Gradient Descent
2. Stochastic Gradient Descent
3. Mini-batch Gradient Descent

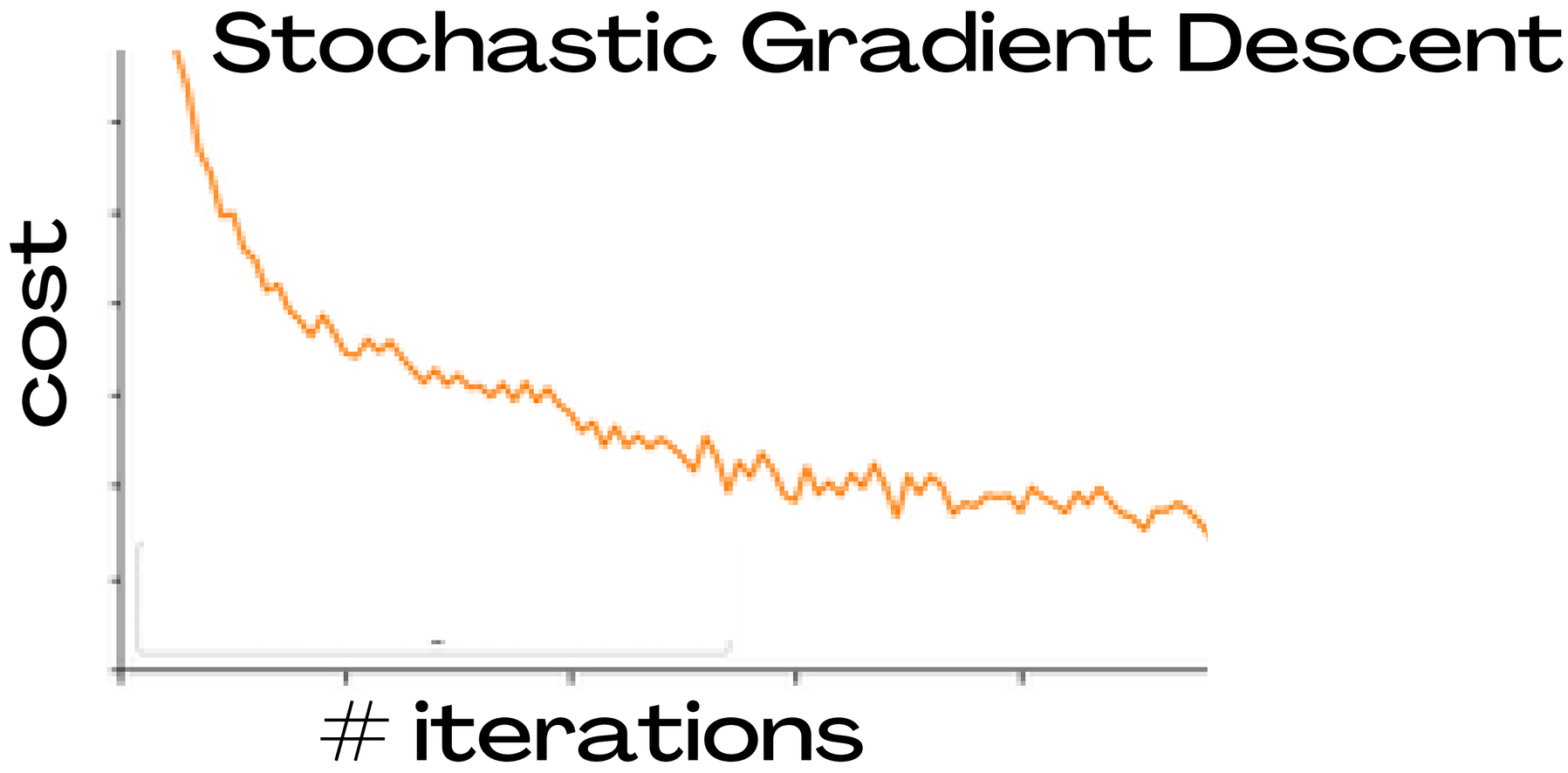
Batch Gradient Descent

- It calculates the error for each example in the training dataset, but only updates the model after all training examples have been evaluated.



Stochastic Gradient Descent

- It calculates the error and updates the model for each example in the training dataset.



Mini-batch Gradient Descent

- In this process, we split the training dataset into small batches that are used to calculate model error and updated model coefficients. (the most common implementation of gradient descent is used in the field of deep learning.