

Task 1: Develop an Artificial Neural Network (ANN) from scratch, without using any machine learning frameworks such as TensorFlow, PyTorch, or Scikit-Learn. Your ANN should:

1. Be implemented using only NumPy and basic Python.
2. Train on the Iris Dataset (Fisher, 1936).
3. Include:
 - a. Input layer
 - b. At least one hidden layer
 - c. Output layer for classification
4. Implement forward propagation, backpropagation, and gradient descent for training.
5. Evaluate the model's performance on test data.

Task 2: Develop an Artificial Neural Network (ANN) from scratch to classify news articles into one of four categories:

1. World
2. Sports
3. Business
4. Science/Technology

Hint: Convert text data into a tabular format using the Bag of Words (BoW) approach. The figure below illustrates the implementation of the Bag of Words (BoW) approach for two sentences.

Document D1	<i>The child makes the dog happy</i> the: 2, dog: 1, makes: 1, child: 1, happy: 1
Document D2	<i>The dog makes the child happy</i> the: 2, child: 1, makes: 1, dog: 1, happy: 1



	child	dog	happy	makes	the	BoW Vector representations
D1	1	1	1	1	2	[1,1,1,1,2]
D2	1	1	1	1	2	[1,1,1,1,2]