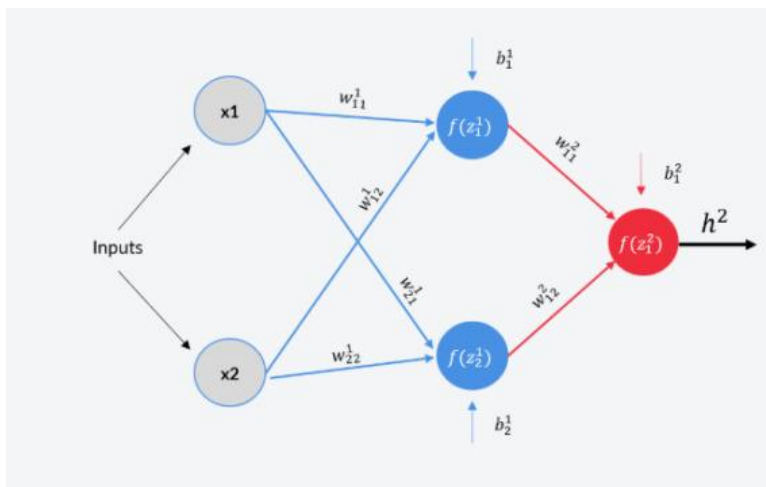


**Sardar Vallabhbhai National Institute of Technology  
Surat-395007**

**Department of Artificial Intelligence  
Deep Learning (AI302)**

**Lab Practical– 1**

- 1) Introduction of PyTorch Tensors and Basic Operations.
  - a) To understand PyTorch tensors, their initialization methods, and data types.
  - b) To perform tensor operations such as arithmetic, broadcasting, indexing, and reshaping.
  - c) To explore automatic differentiation using PyTorch's Autograd system.
- 2) Perform all linear algebra operation with Tensorflow.
- 3) Write a program to implement AND OR gates using Perceptron.
- 4) Implementation of XOR Problem using PyTorch Neural Network.
- 5) Implement Simple below Neural Network to solve regression problem.



**References:**

[https://www.tensorflow.org/api\\_docs/python/tf](https://www.tensorflow.org/api_docs/python/tf)  
[https://www.tensorflow.org/api\\_docs/python/tf/math](https://www.tensorflow.org/api_docs/python/tf/math)  
[https://www.tensorflow.org/api\\_docs/python/tf/linalg](https://www.tensorflow.org/api_docs/python/tf/linalg)