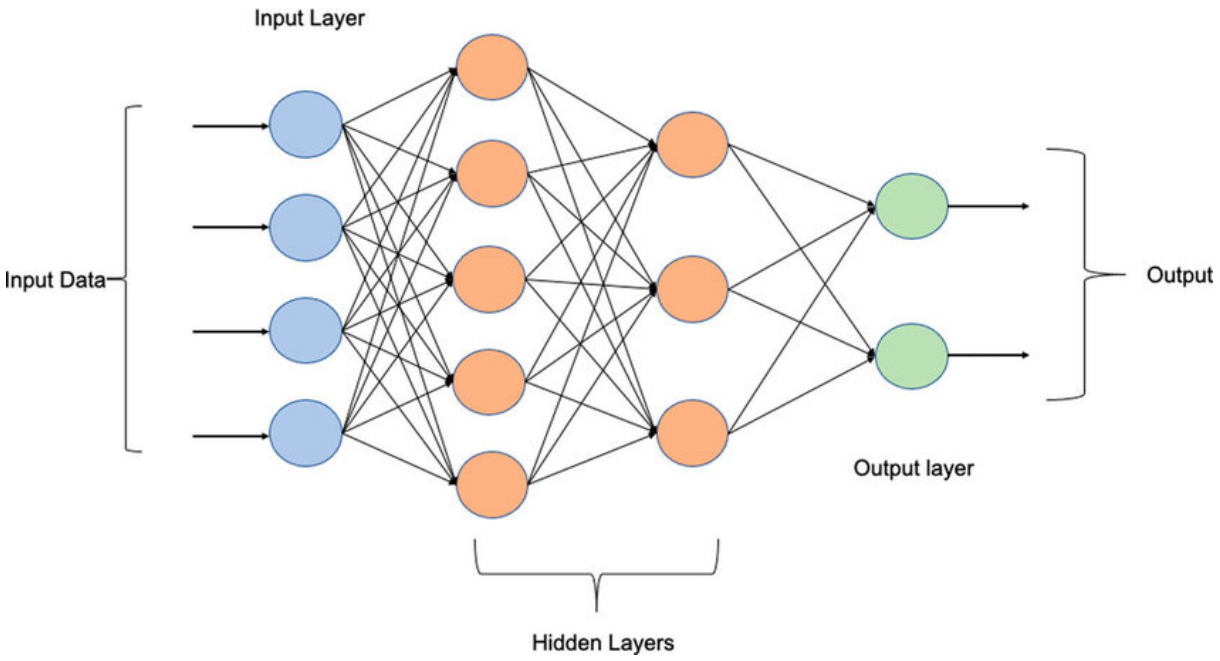
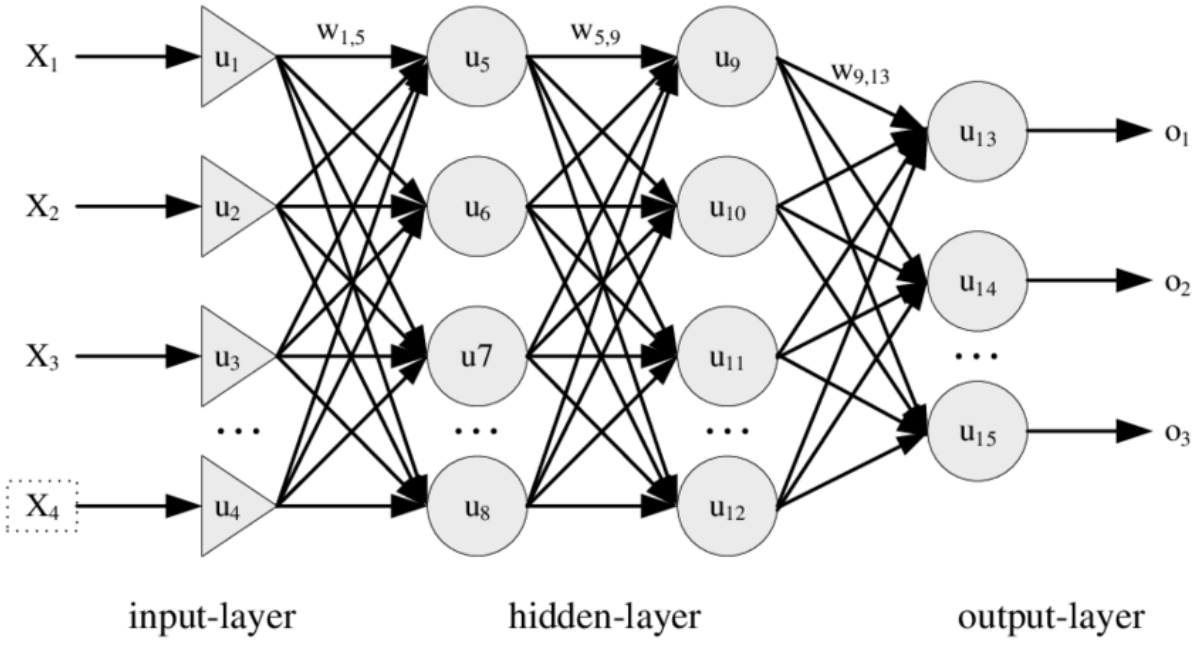
LOSS :

Importance of Loss Function:

1. **Quantify the Error**:
    - The primary purpose of a loss function is to provide a scalar value that quantifies how well or poorly the neural network is performing. It measures the difference between the predicted outputs and the actual target values.
2. **Guide the Learning Process**:
    - The loss function serves as a guide for the optimization process. During training, the neural network uses the gradient of the loss function with respect to the model parameters (weights and biases) to update these parameters in a way that minimizes the loss. This process is typically done using optimization algorithms such as gradient descent.
3. **Evaluate Model Performance**:
    - The loss function provides a standard metric to evaluate and compare the performance of different models or different configurations of the same model. Lower loss indicates better performance.
4. **Determine the Direction of Improvement**:
    - By computing the gradient of the loss function, the neural network can determine the direction in which the parameters should be adjusted to improve performance. This is crucial for algorithms like backpropagation, which rely on the gradients to propagate error information backward through the network.


Input Layer
Input Data
Output
Output layer
Hidden Layers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o1
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o3
input-layer
hidden-layer
output-layer