AI101

Lecture Notes

2025-10-01

Neural Networks Overview

Architecture Components

Neural networks consist of:

- **Input layer**: Receives raw data
- **Hidden layers**: Process information
- **Output layer**: Produces predictions

Training Process

1. Initialize random weights
2. Forward propagation
3. Calculate loss
4. Backpropagation
5. Update weights

Key Hyperparameters

- Learning rate: `0.001`
- Batch size: `32`
- Epochs: `100`

Important: Use *early stopping* to prevent overfitting.