

# Preface



## Chapter 1

# Introduction



## Chapter 2

# Toolbox and Prerequisites

### 2.1 Universal Approximation Theorem

### 2.2 Forward Propagation

### 2.3 Backward Propagation

#### 2.3.1 Gradient Descent

#### 2.3.2 Stochastic Gradient Descent (SGD)



## Chapter 3

# Convolutional Neural Networks





## Chapter 4

# Recurrent Neural Networks