



**NANYANG
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NANYANG TECHNOLOGICAL UNIVERSITY

EE7207 Neural Networks & Deep Learning

Assignment 1 Report

MSc in Electrical and Electronic Engineering

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February 6, 2026

Contents

1	Introduction	1
2	RBF Neural Network Frame	1
2.1	Input Layer	1
2.1.1	Data Analysis	1
2.1.2	Preprocessing	1
2.2	Hidden Layer	1
2.2.1	Kmeans	1
2.2.2	SOM	1
2.3	Output Layer	1
3	Results Analysis	1
4	Check & Improvement	1
5	Conclusion	1

1 Introduction

The report introduces the process of classification with RBF neural network. The RBF contains three layers: input layer, hidden layer, and output layer.

The key obstacle during the development is the selection of parameters, like Gaussian width (σ) and hidden layer neuron number.

Briefly, I divided my design into two parts: (1) basic method to develop basic RBF (2) improve parameters with backpropogation. The final result reflect positive improvement.

2 RBF Neural Network Frame

2.1 Input Layer

2.1.1 Data Analysis

2.1.2 Preprocessing

2.2 Hidden Layer

2.2.1 Kmeans

2.2.2 SOM

2.3 Output Layer

3 Results Analysis

4 Check & Improvement

5 Conclusion