

USING DATA TECHNOLOGY TO PREDICT AND RECOMMEND ONLINE  
SHOPPING FOR CONTEMPORARY POPULATIONS

XU ZHUANGZHUANG

UNIVERSITI TEKNOLOGI MALAYSIA



**UNIVERSITI TEKNOLOGI MALAYSIA**  
**DECLARATION OF thesis**

NOTES : If the thesis is CONFIDENTIAL or RESTRICTED, please attach with the letter from the organization with period and reasons for confidentiality or restriction





USING DATA TECHNOLOGY TO PREDICT AND RECOMMEND ONLINE  
SHOPPING FOR CONTEMPORARY POPULATIONS

XU ZHUANGZHUANG

A thesis submitted in partial fulfilment of the  
requirements for the award of the degree of  
Master of

Masters of Science (Data Science)

Faculty of Computing

Universiti Teknologi Malaysia

November 2024



## **ABSTRACT**

This paper studies the effect of collaborative filtering algorithm on product recommendation and prediction in electronic shopping.



## **TABLE OF CONTENTS**

	<b>TITLE</b>	<b>PAGE</b>
<b>CHAPTER 1</b>	<b>INTRODUCTION</b>	<b>4</b>
1.1	Problem Background	4
1.2	Problem Background	4
1.3	Problem Statement	4
1.4	Research Goal	5
	1.4.1 Research Objectives	5

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Problem Background**

With the development of technology, people are increasingly using the internet for shopping. They can buy a variety of goods online, and more and more people are enjoying the convenience brought by technology. Online shopping can also save a lot of people's time, for example, people don't have to rush a long way to a certain mall to buy goods. People can also easily choose various products.

#### **1.2 Problem Background**

There are more and more products for people to choose from now, but there are also many products that do not appear on people's shopping lists, resulting in many high-quality products not being purchased by people, causing the squeezing and waste of goods.

#### **1.3 Problem Statement**

Many high-quality products cannot be purchased by people, resulting in the squeezing and waste of goods. To solve this problem, it is necessary to recommend and push the products that people want to buy.

## **1.4 Research Goal**

Use collaborative filtering algorithms to effectively solve the problem of pushing recommended products to customers in need and promote higher transaction volumes.

### **1.4.1 Research Objectives**

Online shoppers of all ages.

