MACHINE LEARNING

(Predicting Amount of Purchase)

Summer Internship Report Submitted in partial fulfillment

of the requirement for undergraduate degree of

Bachelor of Technology

In

Electronics and Communication Engineering

By

StudentName

StudentRollNumber

Under the Guidance of

Mr. M. Venkateswarlu

Assistant Professor



Department Of Electronics and Communication Engineering
GITAM School of Technology
GITAM (Deemed to be University)
Hyderabad-502329
June 2019

i

DECLARATION

I submit this industrial training work entitled "PREDICTING AMOUNT OF

PURCHASE" to GITAM (Deemed To Be University), Hyderabad in partial

fulfillment of the requirements for the award of the degree of "Bachelor of

Technology" in "Electronics and Communication Engineering". I declare that it

was carried out independently by me under the guidance of Mr. M. Venkateswarlu,

Asst. Professor, GITAM (Deemed To Be University), Hyderabad, India.

The results embodied in this report have not been submitted to any other

University or Institute for the award of any degree or diploma.

Place: HYDERABAD StudentName

Date: StudentRollNo



GITAM (DEEMED TO BE UNIVERSITY)

Hyderabad-502329, India

Dated:

CERTIFICATE

This is to certify that the Industrial Training Report entitled "PREDICTING AMOUNT OF PURCHASE" is being submitted by StudentName (StudentRollNumber) in partial fulfillment of the requirement for the award of Bachelor of Technology in Electronics & Communication Engineering at GITAM (Deemed To Be University), Hyderabad during the academic year 2018-19

It is faithful record work carried out by her at the **Electronics & Communication Engineering Department**, GITAM University Hyderabad Campus under my guidance and supervision.

Mr. M. Venkateswarlu

Assistant Professor

Department of ECE

Dr.K.Manjunathachari

Professor and HOD

Department of ECE



Promise IT Services

Flat No. 303, Paradise Valley, Road NO.3, Madhavapuri Hills, Chanda Nagar, Ameenpur village, Hyderabad, Telangana, India - 502032

Date: 16th June 2019

CERTIFICATE

This is to certify that the Internship titled "Predicting amount of Purchase using Multiple Linear Regression" is the bona fide work carried out by student of the GITAM University, Hyderabad, in partial fulfillment for the award of Bachelor of Technology in Electronics and Communication Engineering during the period 29th April 2019 – 15th June 2019 at PROMIZE IT SERVICES PRIVATE LIMITED – HYDERABAD, During this period his conduct was found to be very good and he has shown good technical skills.

(Dinesh Kumar Jooshetti)

Project Head

Promize IT Services Pvt Ltd.

HYDERABAD IN

(Suresh Shankar)

Director of Operations

Promize IT Services Pvt Ltd.

ACKNOWLEDGEMENT

Apart from my effort, the success of this internship largely depends on the encouragement and guidance of many others. I take this opportunity to express my gratitude to the people who have helped me in the successful competition of this internship.

I would like to thank respected **Dr. N. Siva Prasad,** Pro Vice Chancellor, GITAM Hyderabad and **Dr. CH. Sanjay,** Principal, GITAM Hyderabad

I would like to thank respected **Dr. K. Manjunathachari**, Head of the Department of Electronics and Communication Engineering for giving me such a wonderful opportunity to expand my knowledge for my own branch and giving me guidelines to present a internship report. It helped me a lot to realize of what we study for.

I would like to thank the respected faculties **Mr. M. Venkateswarlu** who helped me to make this internship a successful accomplishment.

I would also like to thank my friends who helped me to make my work more organized and well-stacked till the end.

StudentName StudentRollNo

ABSTRACT

Machine learning algorithms are used to predict the values from the data set by splitting the data set in to train and test and building Machine learning algorithms models of higher accuracy to predict the values is the primary task to be performed on Cereals data set My perception of understanding the given data set has been in the view of undertaking a client's requirement of overcoming the stagnant point of sales of the products being manufactured by client.

To get a better understanding and work on a strategical approach for solution of the client, I have adapted the view point of looking at ratings of the products and for further deep understanding of the problem, I have taken the stance of a consumer and reasoned out the various factors of choice of the products and they purchase , and my primary objective of this case study was to look up the factors which were dampening the sale of products and corelate them to ratings of products and draft out an outcome report to client regarding the various accepts of a product manufacturing , marketing and sale point determination

Table of Contents: LIST OF FIGURESIX

CHAPTER 1:MACHINE LEARNING1

1.1 INTRODUCTION	1
1.2 IMPORTANCE OF MACHINE LEARNING	1
1.3 USES OF MACHINE LEARNING	2
1.4 TYPES OF LEARNING ALGORITHMS	3
1.4.1 Supervised Learning	3
1.4.2 Unsupervised Learning	3
1.4.3 Semi Supervised Learning	4
1.5 RELATION BETWEEN DATA MINING,MACHIN DEEP LEARNING	
CHAPTER 2:PYTHON	6
2.1 INTRODUCTOIN TO PYTHON	6
2.2 HISTORY OF PYTHON	6
2.3 FEATURES OF PYTHON	6
2.4 HOW TO SETUP PYTHON	7
2.4.1 Installation(using python IDLE)	7
2.4.2 Installation(using Anaconda)	8
2.5 PYTHON VARIABLE TYPES	9
2.5.1 Python Numbers	10
2.5.2 Python Strings	10
2.5.3 Python Lists	11
2.5.4 Python Tuples	11
2.5.5 Python Dictionary	12
2.6 PYTHON FUNCTION	12
2.6.1 Defining a Function	12

8		Calling		2.6.2	Eunation
OOP's	JSING		PYTHON	• • • • • • • • • • • • • • • • • • • •	2.7
				S	CONCEPTS
				2.7.1	
					Class
			_initmethod in cl		
	••••••	•••••	STUDY	R 3:CASE	
PROBLEM	15			NT	3.1 STATEMEN
		vii			
15			T	DATA SET	3.2 D
CASE	THE		OBJECTIVE		
17	•••••		EL BUILDING		
THE	OF		PREPROCESS		4.1 Data
Data	the		Gett	4.1.1	DATA
					Set
17		ries	mporting the Librar	4.1.2 In	
the	g	Importin		4.1.3	Data-Set
Missing	the	ling	Hand	4.1.4	
					values
			Categorical Data		4.0 5
			G THE MODEL		4.2 T
Method	28			4.2.1	1
Method	20			4.2.2	1
Within	30	3			2
34		STUDY	TING THE CASE S	EVALUAT	4.3 E
39	nodel library)	using the statsr	Building the model()	4.3.1 B	
41		using splitting)	Building the model(4.3.2 B	
4 4		••••	•••••	SION	CONCLUSI

REFERENCES4	5

viii

LIST OF FIGURES:

Figure	1	:	The	Process
Flow	• • • • • • • • • • • • • • • • • • • •		2	
Figure 2 : Uns	upervised Learnin	ıg		4
Figure 3 : Sem	ni Supervised Lear	ning		5
Figure	4		:	Python
download			8	
Figure	5		ï	Anaconda
download			9	
Figure	6		:	Jupyter
notebook			9	
Figure	7	:	Defining	a
Class			14	

Figure 8 : Importing Libraries						
Figure Dataset	9	÷		Reading	the	
Figure	10 :		data		using	
dropna()			19			
Figure 11 : data a	after using dro	pna()			19	
Figure 12 : functi	oning of fillna	a(0)			20	
Figure 13 : functi	oning of inter	polate()			21	
Figure 14 : mean	imputation				22	
Figure	15		:		median	
imputation				23		
Figure	16		:		Categorical	
data				24		
Figure 17 : dumn	ny set for the a	above data	a		25	
Figure 18 : addin	g the dummy	set to data	aframe		26	
Figure	19	:		importing	the	
method		• • • • • • • • • • • • • • • • • • • •		27		
Figure 20 : handling categorical data						
Figure 21 : importing train_test_split						
Figure 22 : predicting						
Figure 23 : comparing the predicted value with the original one30						
Figure	24	:	ols	and	its	
functioning				31		
Figure 25 : mathematical operation on input or output32						
ix						
Figure			26		:	
correlation					33	

Figure 27:	pair plot					34
Figure		28 : importing		ting	the	
libraries				35		
Figure		29	:	read	ing	the
dataset				35		
Figure	30	:	before	handling	the	missing
values			36			
Figure	31	:	after	handling	the	missing
values			36			
Figure	32	:	getting	dummies	for	gender
column			37			
Figure	33	:	getting	dummies	for	age
column		• • • • • • • • • • • • • • • • • • • •	37			
Figure 34:	getting d	lummie	s for city_cate	gory column		38
Figure 35:	dropping	g the col	umns which a	are not required.		38
Figure 36:	correlati	on				39
Figure 37:	getting I	R-squar€	ed values usin	g ols		40
Figure	3	8	:	improved		R-squared
value				40		
Figure	39		: re	etrieving	the	input
columns			• • • • • • • • • • • • • • • • • • • •	41		
Figure 40 :	retrievin	g the ou	tput columns			41
Figure		41	:	splitt	ting	the
data				42		
Figure 42 :	importin	g the lin	near regression	n		42
Figure 43:	predictir	ng the or	ıtput			43
Figure	44	:	comp	paring v	with	original
data			43			