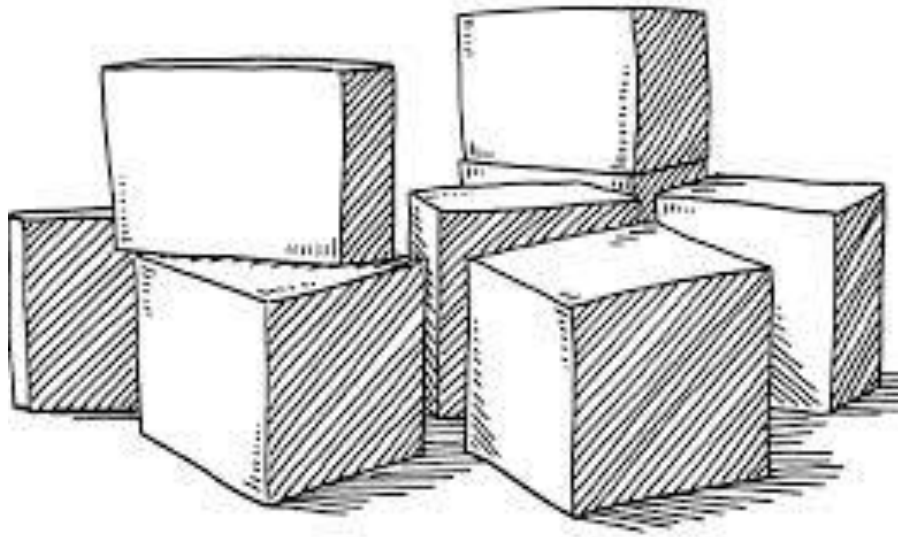


DR. ALVIN'S PUBLICATIONS

MULTIPLE REGRESSION USING R

DR. ALVIN ANG



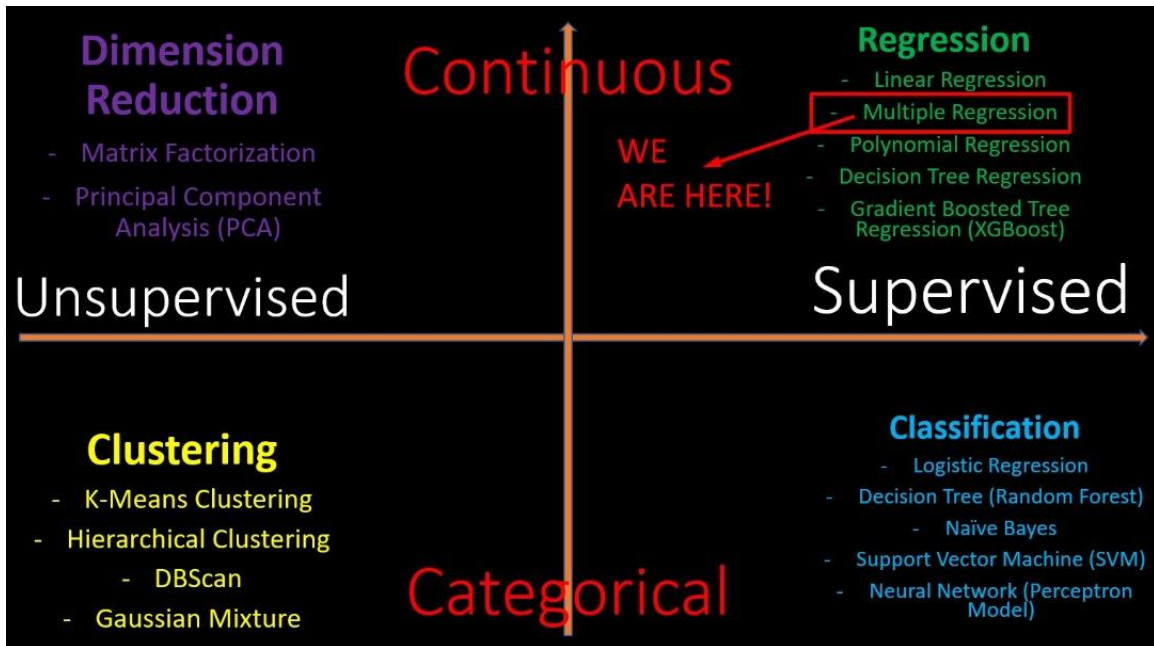
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I. INTRODUCTION



II. R - MTCARS

<https://www.alvinang.sg/s/Multiple-Regression-using-R-by-Dr-Alvin-Ang.R>

A. IMPORT DATASET



The screenshot shows the RStudio interface with the 'mtcars' dataset loaded into the environment. The Environment pane on the right shows 'mtcars' under the 'Data' section, highlighted with a red box. The main window displays a table of the dataset's first 10 rows, also highlighted with a red box.

	mpg	cyl	disp	hp	drat	wt	qsec	vs
Mazda RX4	21.0	6	160.0	110	3.90	2.620	16.46	
Mazda RX4 Wag	21.0	6	160.0	110	3.90	2.875	17.02	
Datsun 710	22.8	4	108.0	93	3.85	2.320	18.61	
Hornet 4 Drive	21.4	6	258.0	110	3.08	3.215	19.44	
Hornet Sportabout	18.7	8	360.0	175	3.15	3.440	17.02	
Valiant	18.1	6	225.0	105	2.76	3.460	20.22	
Duster 360	14.3	8	360.0	245	3.21	3.570	15.84	
Merc 240D	24.4	4	146.7	62	3.69	3.190	20.00	

B. FIT LINEAR MODEL

```
m <- lm(mpg ~ wt+hp+disp, data = mtcars)
```

C. COEFFICIENTS

```
coef(m)
```

```
> coef(m)
(Intercept)          wt          hp          disp
37.1055052690 -3.8008905826 -0.0311565508 -0.0009370091
```

This represents:

$$\text{Mpg} = 37.1 - (3.8 * \text{wt}) - (0.03 * \text{hp}) - (0.0009 * \text{disp})$$

D. PREDICTION

```
predict(m, data.frame(wt=2.62, hp=110, disp=160))
```

```
1  
23.57003
```

ABOUT DR. ALVIN ANG



Dr. Alvin Ang earned his Ph.D., Masters and Bachelor degrees from NTU, Singapore. He is a scientist, entrepreneur, as well as a personal/business advisor. More about him at www.AlvinAng.sg.