

STATISTICS

MULTIPLE LINEAR REGRESSION

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Our Dataset

League of Legends

Regressor 1: x_1 = Blue Total Kills

Regressor 2: x_2 = Blue Total Minions Killed

Response: y = Blue Total Gold

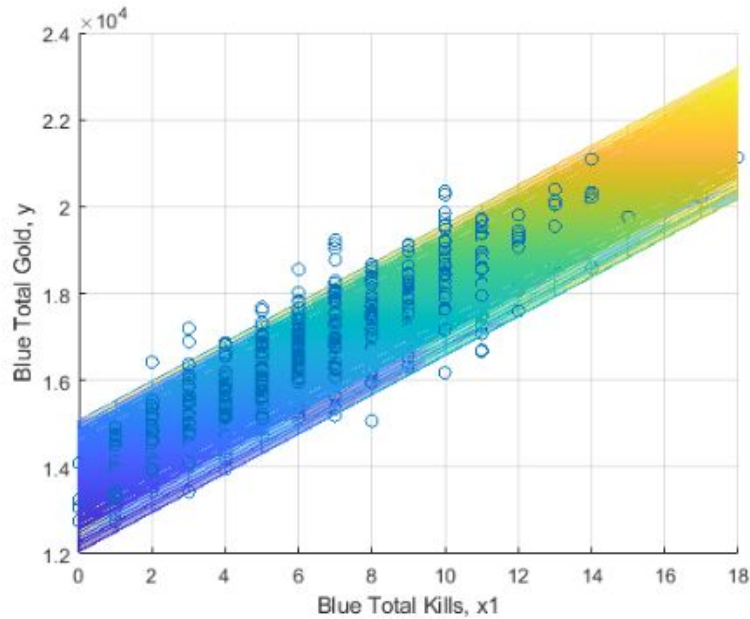
Is there a relationship between the regressors and the response?

Should those relationships be expected?

Have we obtained the model we expected?



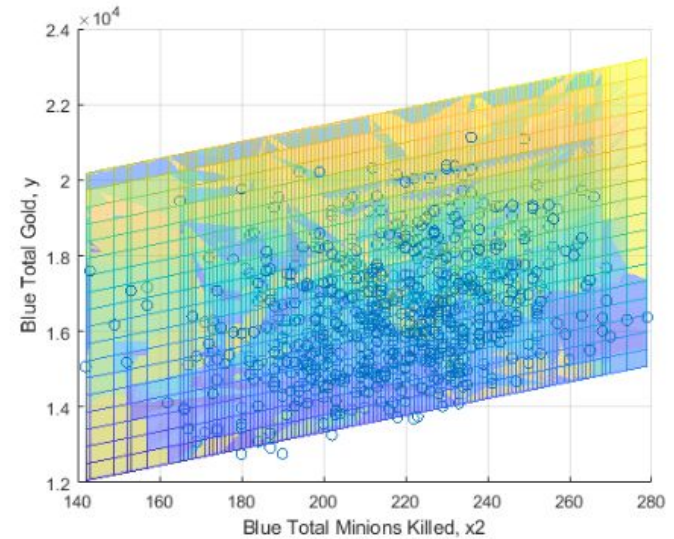
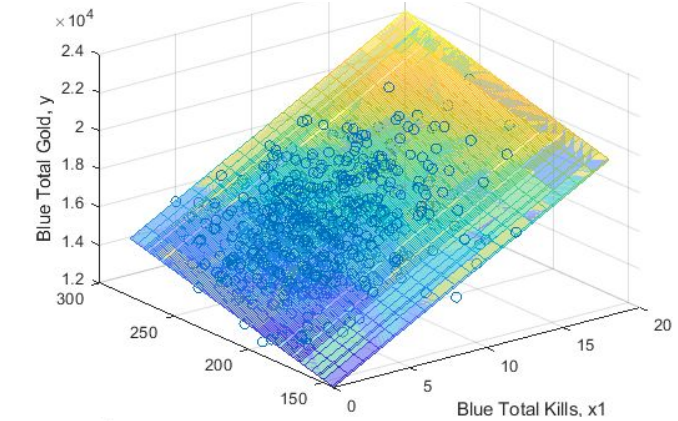
Plot y vs. x1 and x2



$$R^2 = 0.8906$$

$$B1 = 451.6605$$

$$B2 = 22.1336$$



Example of the relationship y vs. x_1 and x_2

EQUIPO 1		47 / 24 / 47	63.354			
14	Cintaa1223			8 / 5 / 9	45	10.665
18	klausibuff05			10 / 3 / 7	227	15.128
16	Llucc			6 / 5 / 12	153	11.425
15	iambriangon			2 / 4 / 10	121	9.958
17	bkardi liri			21 / 7 / 9	179	16.178
EQUIPO 2		24 / 47 / 25	51.491			
12	knuppel010			2 / 11 / 9	26	8.072
15	Snoomoo			5 / 9 / 2	125	9.732
14	MydexYYY			3 / 12 / 5	155	9.616
16	UTG Yoshi			11 / 6 / 3	220	14.044
15	Asusko			3 / 9 / 6	137	10.027

Analysis results

General formula:

$$y_i = b_0 + b_1 \cdot x_{1i} + b_2 \cdot x_{2i}$$

$$b_0 = 8903,5$$

$$b_1 = 451,6605$$

$$b_2 = 22,1336$$

F-test

$$F_{obs} = 3046$$

$$F_{val} = 3.0078$$

We reject H_0

$$pval = 0$$

Coefficient of determination

$$r^2 = 0.8906$$

The model is very well fitted.

T-test

$$[-1,9631; 1.9631]$$

$$T_{obs1} = 73,8028$$

We reject H_0

$$pval1 = 0$$

$$T_{obs2} = 26,8801$$

We reject H_0

$$pval2 = 0$$

Possible extensions

Could it be needed to collect more data?

Could it be necessary to introduce other regressors?

What could be future interesting questions?



Turrets - Inhibitors - Nashors - Dragons - Heralds

Extensions

EQUIPO 1		47 / 24 / 47	63.354					BLOQUEOS + OBJETIVOS
	14	Cintaa1223		8 / 5 / 9	45	10.665		
	18	klausibuff05		10 / 3 / 7	227	15.128		
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Thank you for your
attention!



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