

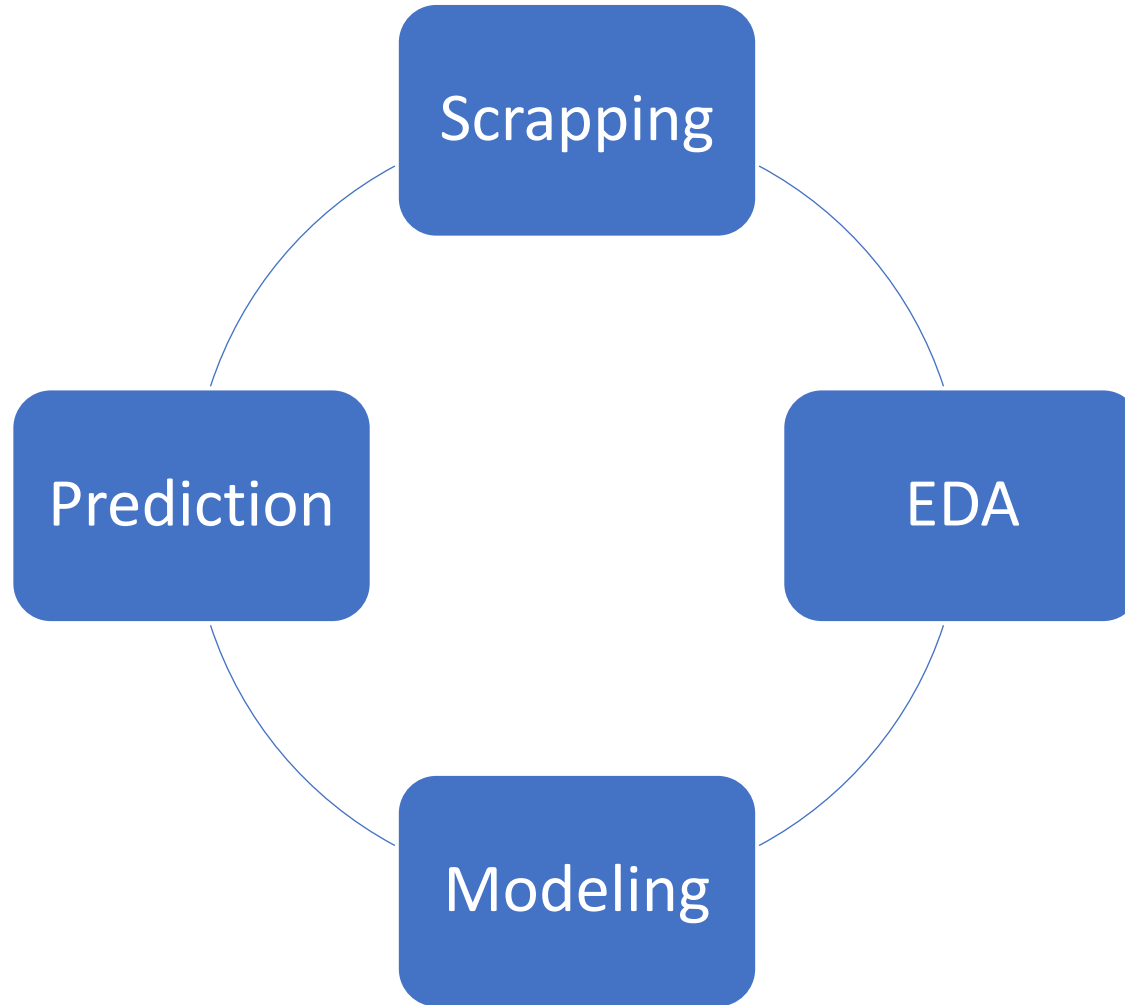
Estimating prices of players

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Back Story

Process

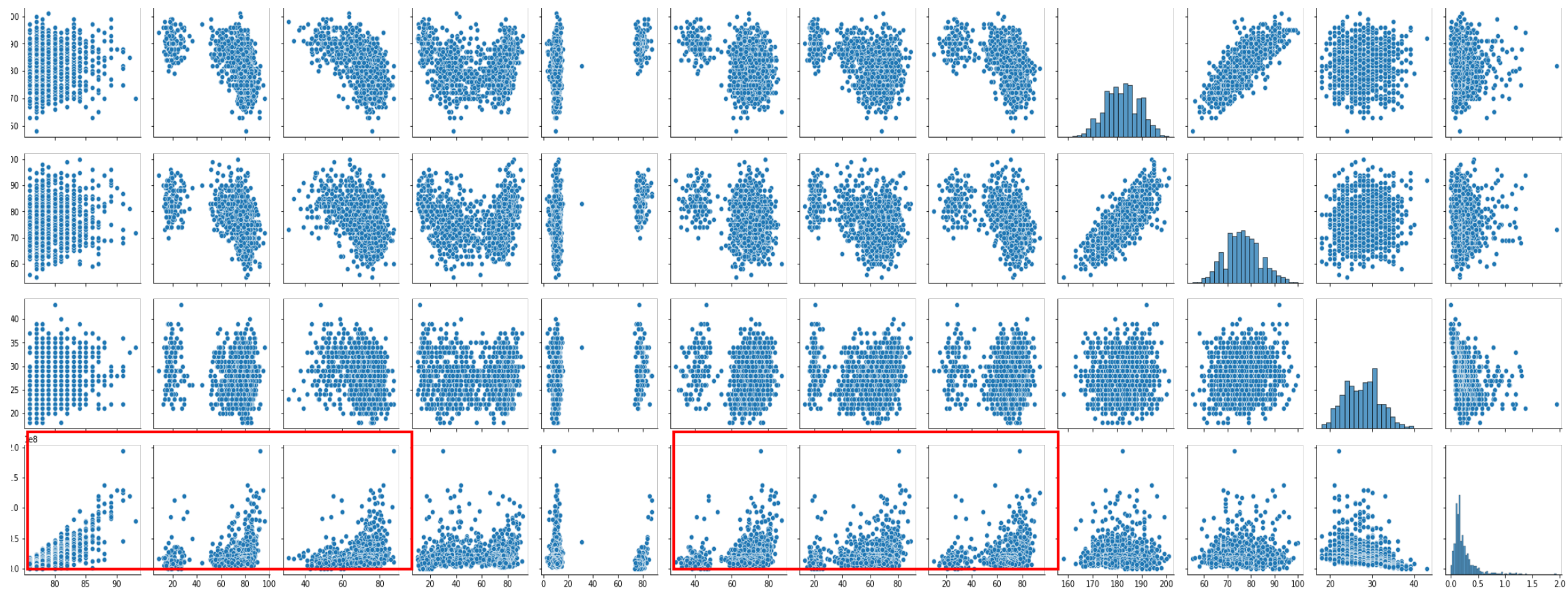


OUR PLAYERS DATASET

	Players Name	Over_All	ball_skills	physical	defence	GK	mental	shooting	passing	hight	wight	age	value
0	Lionel Messi	93	96.0	80.857143	27.5	10.8	77.000000	86.875	89.000000	170	72	34	78000000.0
1	Robert Lewandowski	92	86.5	80.285714	38.5	10.2	81.166667	88.125	75.333333	185	81	33	119500000.0
2	Kylian Mbappé	91	92.0	87.428571	30.0	8.4	75.833333	80.500	78.000000	182	73	22	194000000.0
3	Jan Oblak	91	21.0	59.428571	19.5	87.4	47.500000	18.500	32.000000	188	87	28	112000000.0
4	Kevin De Bruyne	91	89.5	76.428571	66.5	11.2	84.000000	81.500	93.666667	181	70	30	125500000.0
...
1195	André-Franck González Rey	76	81.0	78.285714	74.5	10.0	77.000000	61.125	69.666667	184	78	25	10500000.0
1196	Lucas Tousart	76	65.5	69.714286	77.5	13.4	69.166667	53.875	68.666667	185	83	24	10500000.0
1197	Frédéric Guilbert	76	68.5	74.714286	74.0	11.6	70.166667	50.625	70.333333	178	78	26	9000000.0
1198	Jeremiah St. Juste	76	74.0	79.285714	78.5	11.8	69.833333	53.375	70.000000	184	74	24	9500000.0
1199	Gonzalo Martínez	76	81.5	77.142857	37.5	11.0	63.000000	69.625	72.000000	172	75	28	7500000.0

	Players Name	Over_All	ball_skills	physical	defence	GK	mental	shooting	passing	hight	wight	age	log value
0	Lionel Messi	93	96.0	80.857143	27.5	10.8	77.000000	86.875	89.000000	170	72	34	18.172219
1	Robert Lewandowski	92	86.5	80.285714	38.5	10.2	81.166667	88.125	75.333333	185	81	33	18.598827
2	Kylian Mbappé	91	92.0	87.428571	30.0	8.4	75.833333	80.500	78.000000	182	73	22	19.083369
4	Kevin De Bruyne	91	89.5	76.428571	66.5	11.2	84.000000	81.500	93.666667	181	70	30	18.647816
5	Neymar Jr	91	95.0	80.000000	33.5	11.8	76.333333	82.625	84.000000	175	68	29	18.675323
...
1195	André-Franck González Rey	76	81.0	78.285714	74.5	10.0	77.000000	61.125	69.666667	184	78	25	16.166886
1196	Lucas Tousart	76	65.5	69.714286	77.5	13.4	69.166667	53.875	68.666667	185	83	24	16.166886
1197	Frédéric Guilbert	76	68.5	74.714286	74.0	11.6	70.166667	50.625	70.333333	178	78	26	16.012735
1198	Jeremiah St. Juste	76	74.0	79.285714	78.5	11.8	69.833333	53.375	70.000000	184	74	24	16.066802
1199	Gonzalo Martínez	76	81.5	77.142857	37.5	11.0	63.000000	69.625	72.000000	172	75	28	15.830414

Correlation plot



Model Selection

- *Train r^2* for :
 - Linear Regression is : 0.491
 - Polynomial Regression:0.753
 - Lasso Regression:0.768
 - Ridge Regression:0. 749
 - Elastic Regression:0. 512

Model Selection (Cont)

- *Valid r^2* for :
 - Polynomial Regression:0.674
 - Lasso Regression:0.686
 - Ridge Regression:0.674
 - Elastic Regression:0.405

- Scoring on Test Set for Linear Regression: r^2 : 0.747

Our Prediction

	Players Name	Market Value	Real Value	Predicted Market Value	age	defence	passing	physical	shooting	GK
0	Marco Verratti	18.191268	79500000.0	8.325788e+07	28	80.0	87.000000	72.857143	64.000	12.8
1	Nicolò Barella	17.966550	63500000.0	6.604952e+07	24	74.5	78.000000	82.714286	69.125	10.8
2	Kingsley Coman	18.209960	81000000.0	5.613768e+07	25	28.0	77.666667	81.142857	73.625	4.2
3	Andrej Kramarić	17.385043	35500000.0	5.541661e+07	30	27.5	73.333333	75.571429	82.250	11.6
4	Emre Can	17.370859	35000000.0	5.042587e+07	27	84.0	78.333333	80.285714	74.500	10.8
...
150	Montoro	15.955577	8500000.0	7.964726e+06	33	77.0	74.000000	56.142857	64.000	12.8
151	Fabio Quagliarella	15.384126	4800000.0	7.833955e+06	38	28.0	72.000000	66.714286	80.500	5.2
152	Ömer Toprak	15.761421	7000000.0	7.754634e+06	32	81.5	63.000000	68.428571	46.125	11.4
153	Negredo	15.607270	6000000.0	5.626243e+06	36	32.0	60.333333	68.142857	77.250	9.6
154	Jorge Molina	15.096444	3600000.0	3.018157e+06	39	38.5	62.333333	43.571429	75.500	11.0

155 rows × 10 columns

Conclusion

- The prices didn't get higher as we expected
- Polynomial Regression can be a helpful in our case.
- Market Value could be dependent on other **important features**.

Thank You