



*Venues of Cracow:  
Main square vs Kazimierz District*



# Intoduction

In this project an analysis was carried out considering two very popular neighborhoods of Cracow, which are rich in venues:

## - Main Square



## - Kazimierz District



Conducted comparison will be aimed at finding features unique for each districts, similarities and leads for investors planning to open new venues in one of mentioned districts.



# Data

The data needed for this analysis will be acquired through Foursquare developers API

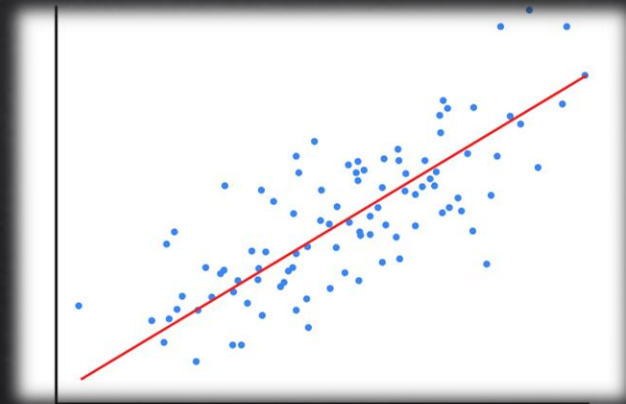
	District	id	Venues	Venue Latitude	Venue Longitude	Venue Category	Verified	Rating	Tips Count	Likes Count	Photos Count
0	Kazimierz	56193c32498e5b08a853b2e6	Youmiko Sushi	50.050314	19.943130	Sushi Restaurant	False	9.5	89	237	102
1	Kazimierz	55ce5da3498e5b80f82f9afc	BARaWINO	50.048434	19.944891	Wine Bar	False	9.2	13	67	21
2	Kazimierz	5639c271cd1086837a2fea42	Nolio	50.049356	19.942901	Pizza Place	False	9.0	77	251	50
3	Kazimierz	5283cd6411d296aa84e3d8d7	Bottiglieria 1881	50.048738	19.946163	Italian Restaurant	False	8.7	5	22	11
4	Kazimierz	57262e7c498e0c9c72558bb5	Good Lood	50.048777	19.944739	Ice Cream Shop	False	8.6	34	109	38
...	...	...	...	...	...	...	...	...	...	...	...
195	Main square	55448431498e731178b9e24b	Little Havana Hostel	50.061960	19.934831	Hostel	False	7.6	3	10	6
196	Main square	4fb68199e4b0204f4d42f2e0	Muzeum Farmacji	50.063268	19.940134	History Museum	False	7.5	1	8	7
197	Main square	4cdda698db1254810bab2bce	CK Dezerter	50.060336	19.936326	Eastern European Restaurant	False	7.4	6	26	28
198	Main square	51802019498ef82bbe68129f	Tiffany Ice cream	50.063795	19.935643	Ice Cream Shop	False	7.8	23	50	30
199	Main square	4db6deca5da3a76f446edef3	Szara Resto&Bar	50.061323	19.938078	Restaurant	False	7.4	31	54	123

# Methodology

- ◇ Counting the top most popular venues in each district.

- ◇ Descriptive statistics

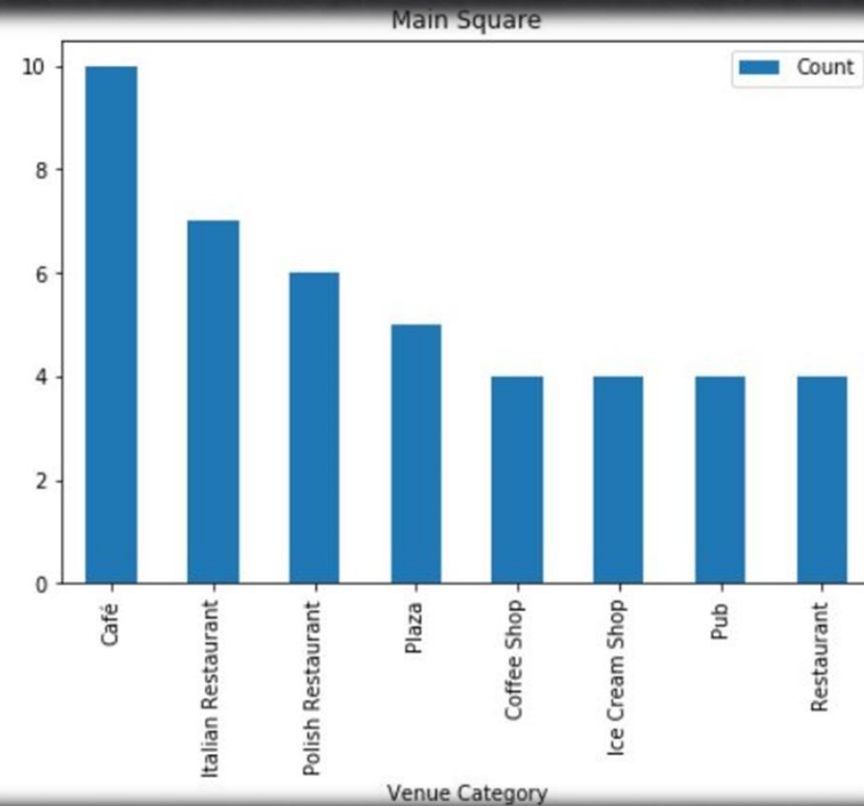
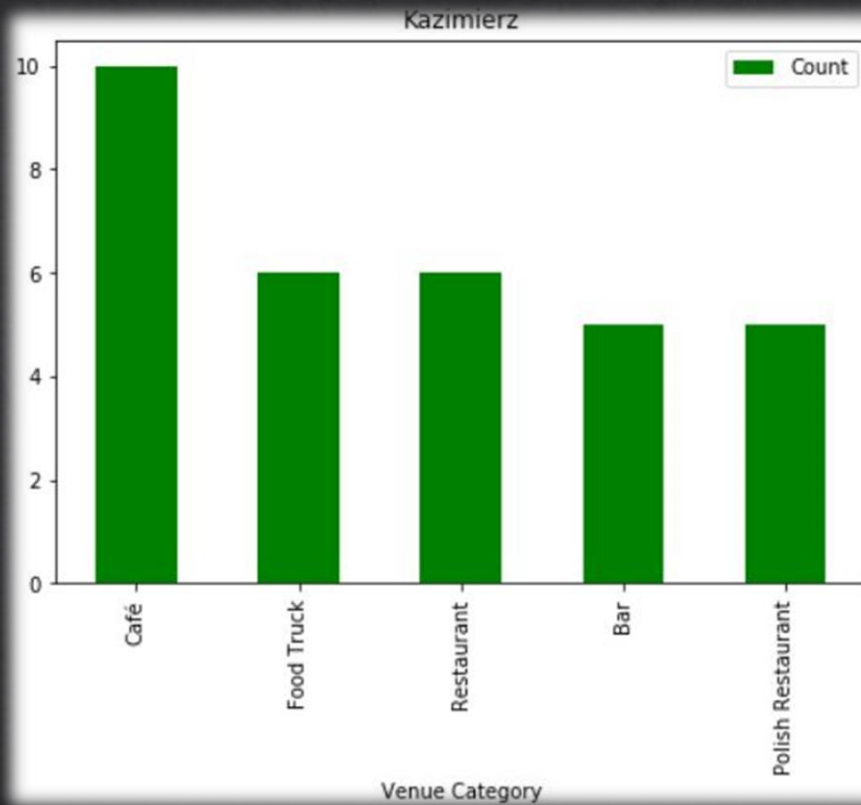
- ◇ Regression





# Results

Most popular categories for venues



# Results

## Descriptive statistics for Kazimierz District

	Venue Latitude	Venue Longitude	Rating	Tips Count	Likes Count	Photos Count
count	100.000000	100.000000	100.000000	100.000000	100.000000	100.000000
mean	50.050685	19.945580	8.037000	27.730000	81.630000	53.210000
std	0.001646	0.002124	0.554441	37.447298	111.967136	68.33892
min	50.047327	19.940641	6.900000	0.000000	6.000000	0.000000
25%	50.049296	19.944371	7.600000	5.750000	16.750000	13.000000
50%	50.050824	19.945645	8.100000	14.500000	44.500000	27.500000
75%	50.051822	19.947206	8.400000	32.250000	78.500000	63.250000
max	50.053440	19.950407	9.500000	213.000000	700.000000	404.000000

# Results

## Descriptive statistics for Main Square

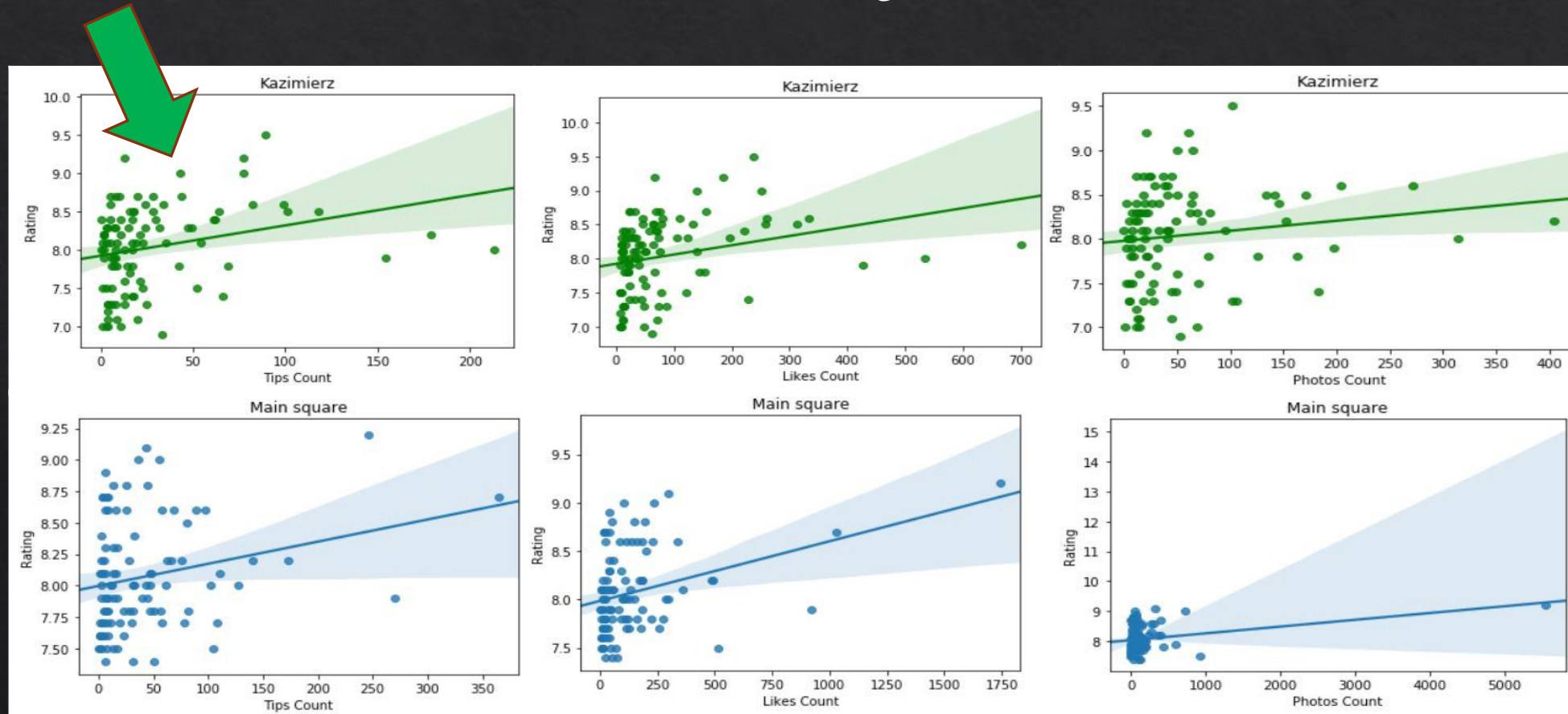
	Venue Latitude	Venue Longitude	Rating	Tips Count	Likes Count	Photos Count
count	100.000000	100.000000	100.000000	100.000000	100.000000	100.000000
mean	50.061892	19.938012	8.068000	40.090000	134.140000	158.400000
std	0.001325	0.002168	0.434818	57.52612	231.843252	564.601782
min	50.059121	19.933834	7.400000	0.000000	3.000000	2.000000
25%	50.060873	19.936209	7.700000	6.000000	21.250000	20.750000
50%	50.061893	19.938046	8.000000	17.000000	52.000000	49.000000
75%	50.063055	19.939716	8.300000	50.250000	159.250000	117.000000
max	50.064213	19.942660	9.200000	365.000000	1742.000000	5546.000000



# Results

R2 score = -6,8212363524512

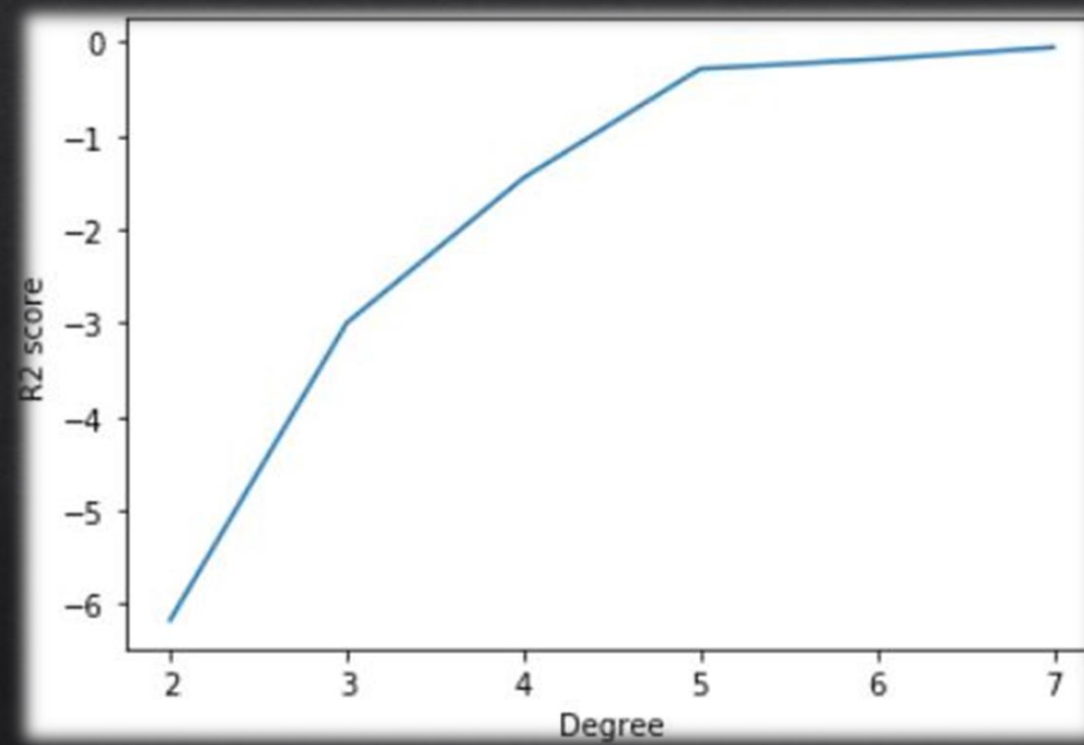
Linear regression





# Results

Polynomial regression



# Discussion and conclusion

- ◆ The most popular category of venue for both districts is Cafe.
  - ◆ Next in order of popularity are: for Kazimierz District – Food Trucks and Restaurants, and for Main Square – Italian Restaurant and Polish Restaurant.
  - ◆ Average venue rating for both districts are similar, and is around 8,0.
  - ◆ In venues in Main Square visitors take make photos then in venues in Kazimierz District.
  - ◆ Both linear and polynomial regression showed no correlations between ratings and other details of venues.
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- ◆ Number of photos per venue, and popular type of venues in each district might suggest that Main Square is more popular among tourist, while Kazimierz District is also popular among local residents