

Average Time Spent By A User On Social Media

Linguagem de Programação
Aplicada à Automação (LPAA)

Prof. Dr. Emmanuel Andrade

PROJETO FINAL

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Universidade de Pernambuco – POLI/UPE
ENGENHARIA DE CONTROLE E AUTOMAÇÃO



Análise dos dados

	age	gender	time_spent	platform	interests	location	demographics	profession	income	indebt	isHomeOwner	Owns_Car
0	56	male	3	Instagram	Sports	United Kingdom	Urban	Software Engineer	19774	True	False	False
1	46	female	2	Facebook	Travel	United Kingdom	Urban	Student	10564	True	True	True
2	32	male	8	Instagram	Sports	Australia	Sub_Urban	Marketer Manager	13258	False	False	False
3	60	non-binary	5	Instagram	Travel	United Kingdom	Urban	Student	12500	False	True	False
4	25	male	1	Instagram	Lifestlye	Australia	Urban	Software Engineer	14566	False	True	True

Estatísticas descritivas:

	age	time_spent	income
count	1000.000000	1000.000000	1000.000000
mean	40.986000	5.029000	15014.823000
std	13.497852	2.537834	2958.628221
min	18.000000	1.000000	10012.000000
25%	29.000000	3.000000	12402.250000
50%	42.000000	5.000000	14904.500000
75%	52.000000	7.000000	17674.250000
max	64.000000	9.000000	19980.000000

Valores nulos no dataframe:

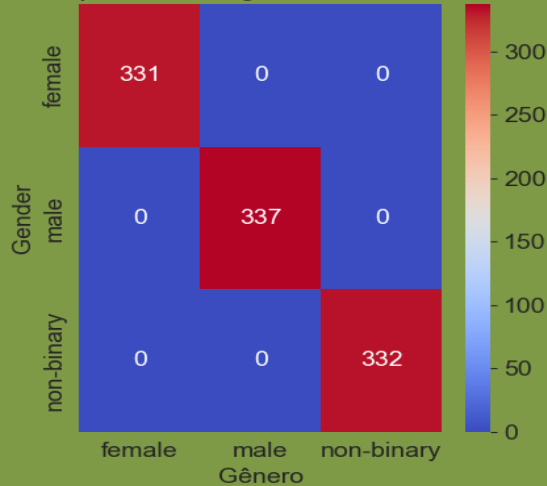
```
age          0
gender       0
time_spent   0
platform     0
interests    0
location     0
demographics 0
profession   0
income       0
indebt       0
isHomeOwner  0
Owns_Car     0
dtype: int64
```

#	Column	Non-Null Count	Dtype
0	age	1000 non-null	int64
1	gender	1000 non-null	object
2	time_spent	1000 non-null	int64
3	platform	1000 non-null	object
4	interests	1000 non-null	object
5	location	1000 non-null	object
6	demographics	1000 non-null	object
7	profession	1000 non-null	object
8	income	1000 non-null	int64
9	indebt	1000 non-null	bool
10	isHomeOwner	1000 non-null	bool
11	Owns_Car	1000 non-null	bool
dtypes: bool(3), int64(3), object(6)			

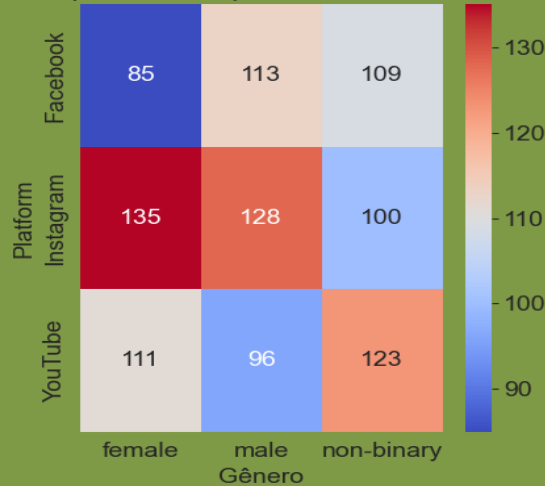
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise dos dados

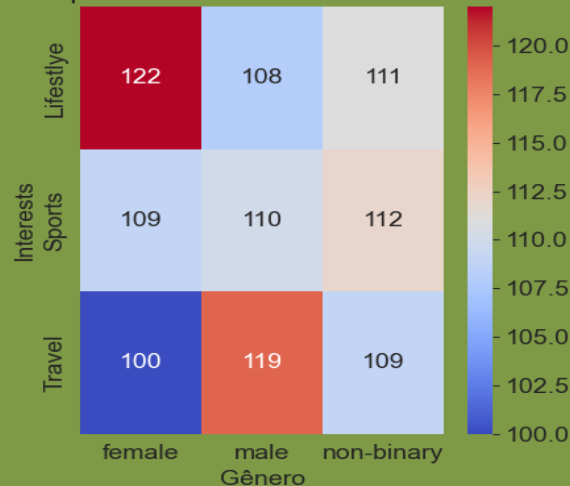
Mapa de calor gender vs Gênero



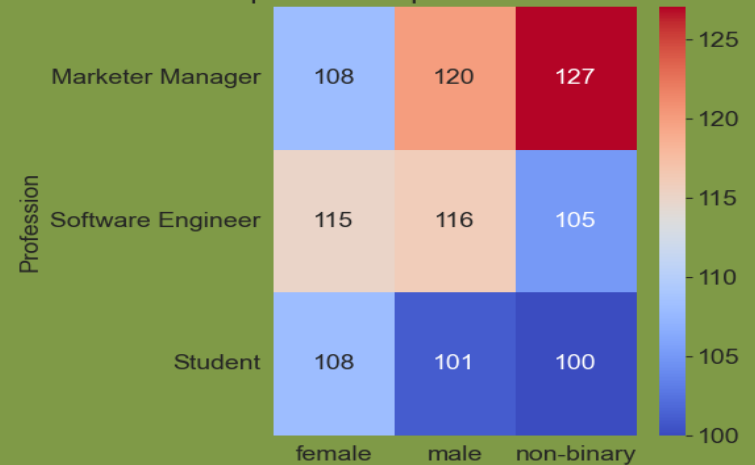
Mapa de calor platform vs Gênero



Mapa de calor interests vs Gênero



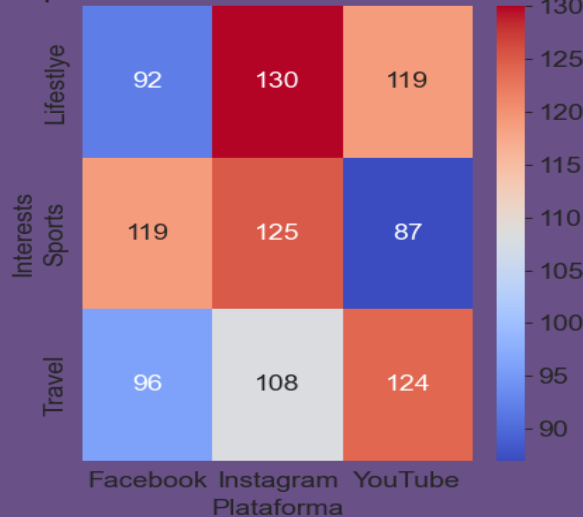
Mapa de calor profession vs Gênero



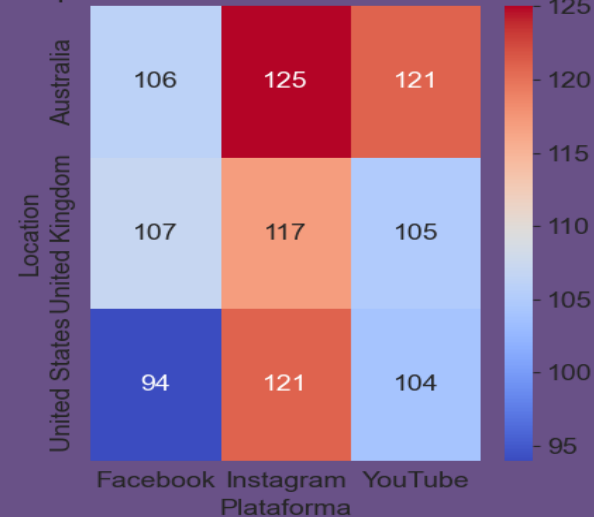
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Análise de dados

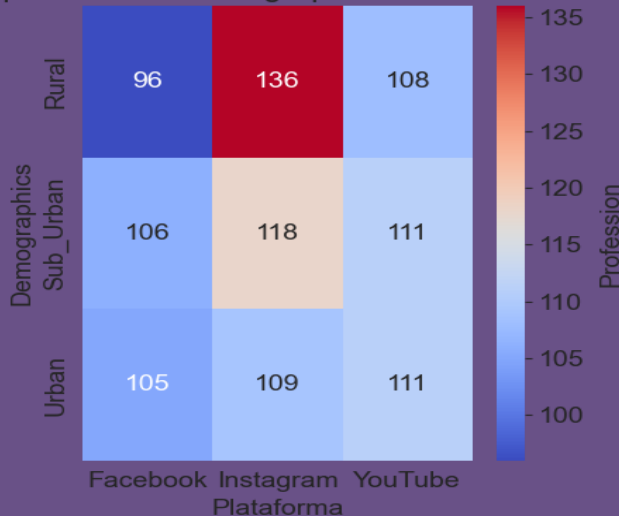
Mapa de Calor interests vs Plataforma



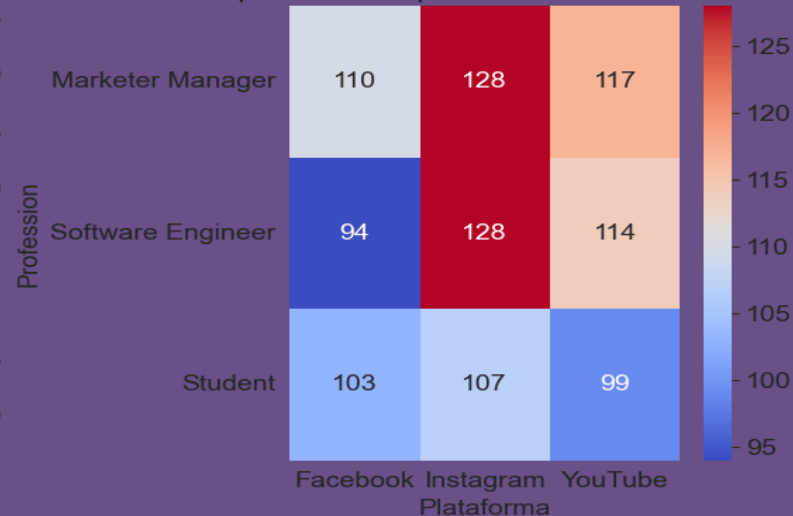
Mapa de Calor location vs Plataforma



Mapa de Calor demographics vs Plataforma

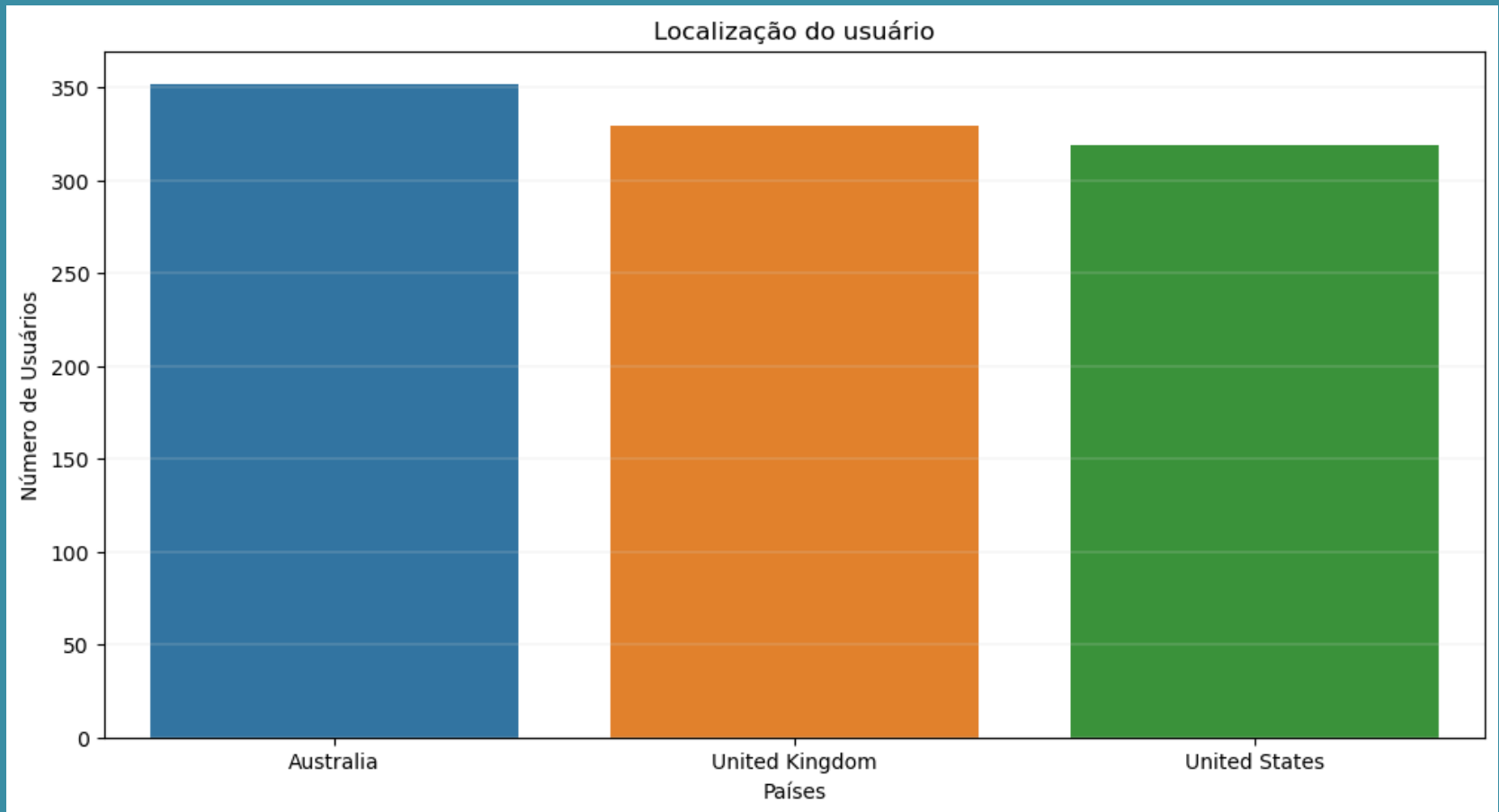


Mapa de Calor profession vs Plataforma



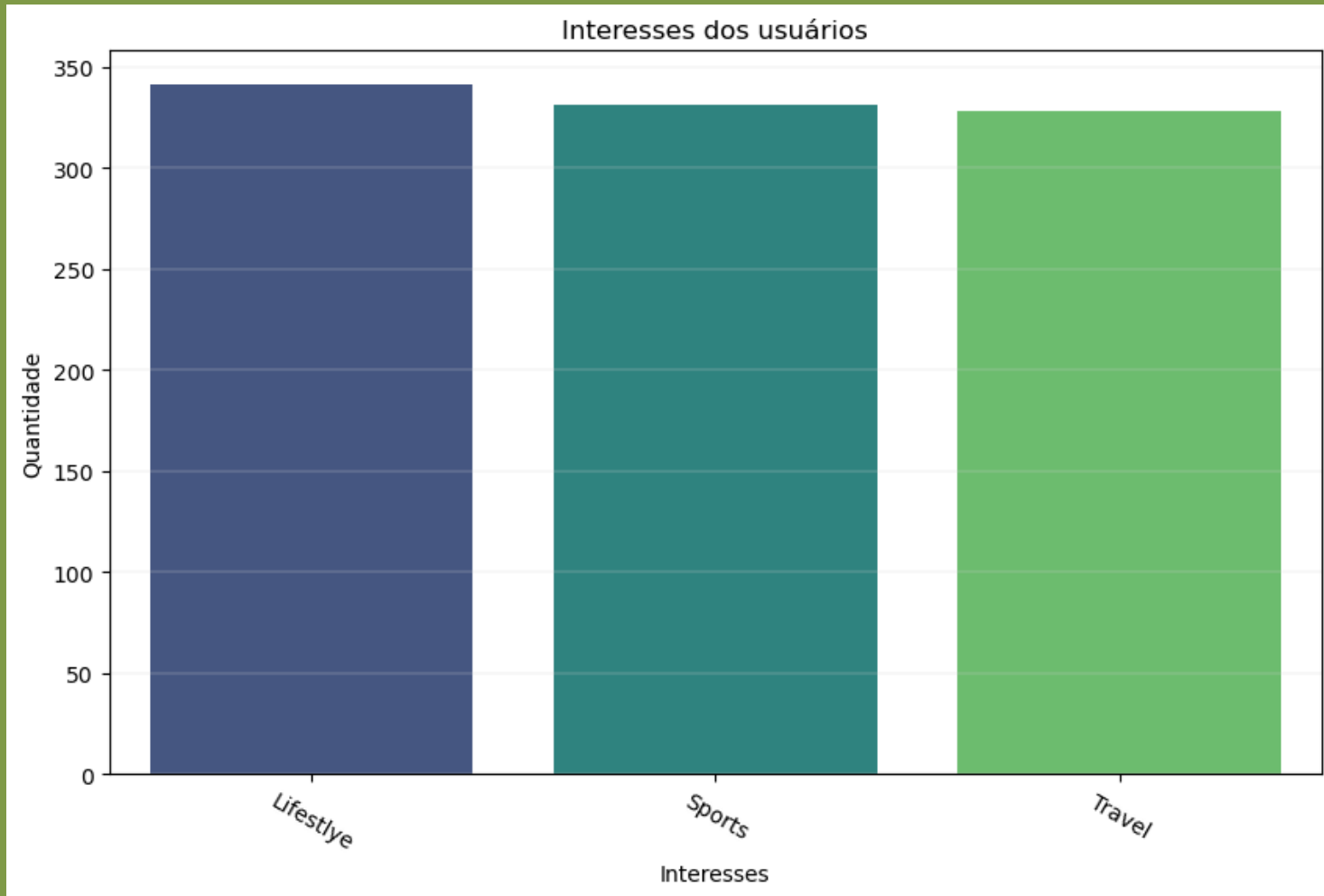
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise dos dados



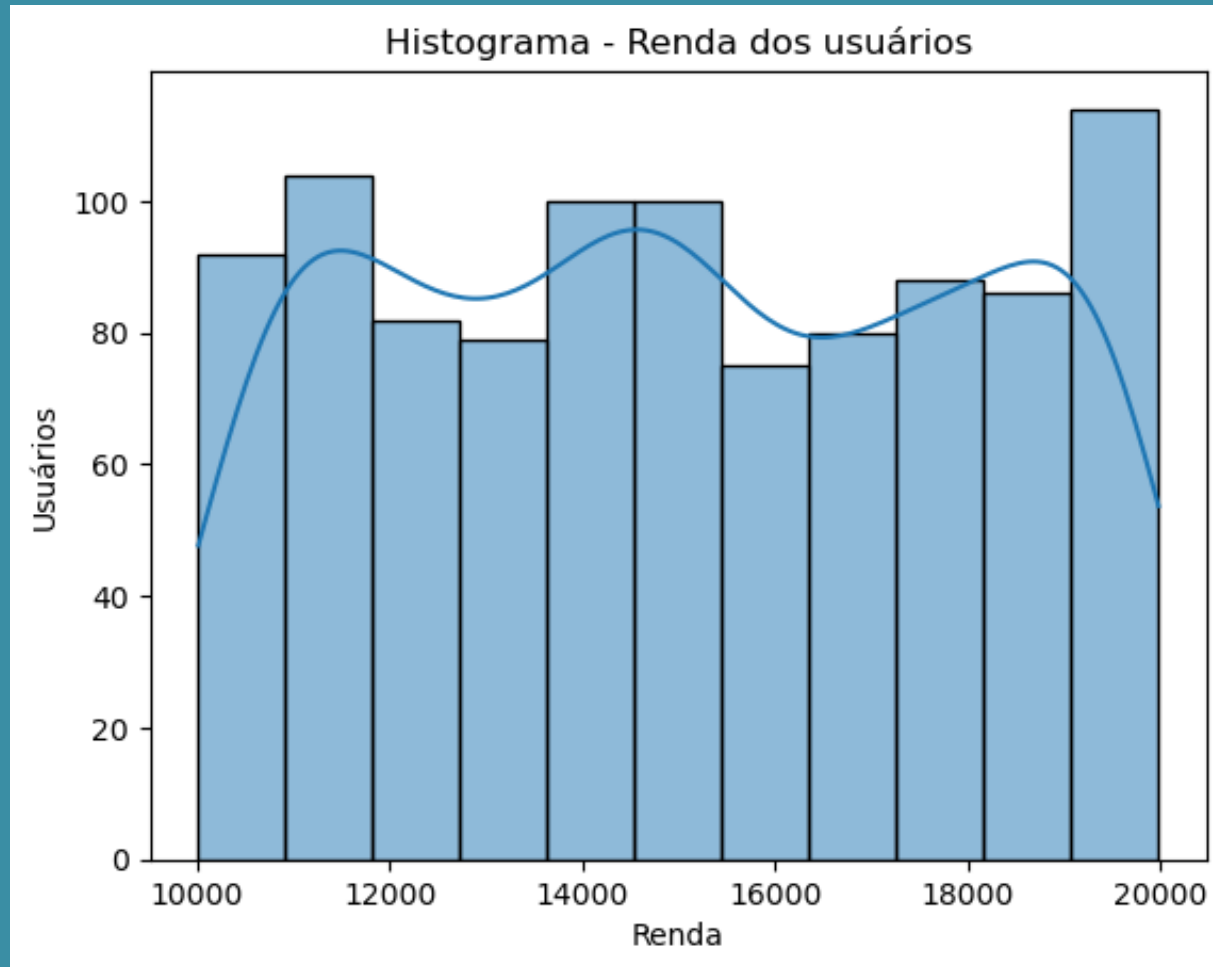
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise dos dados



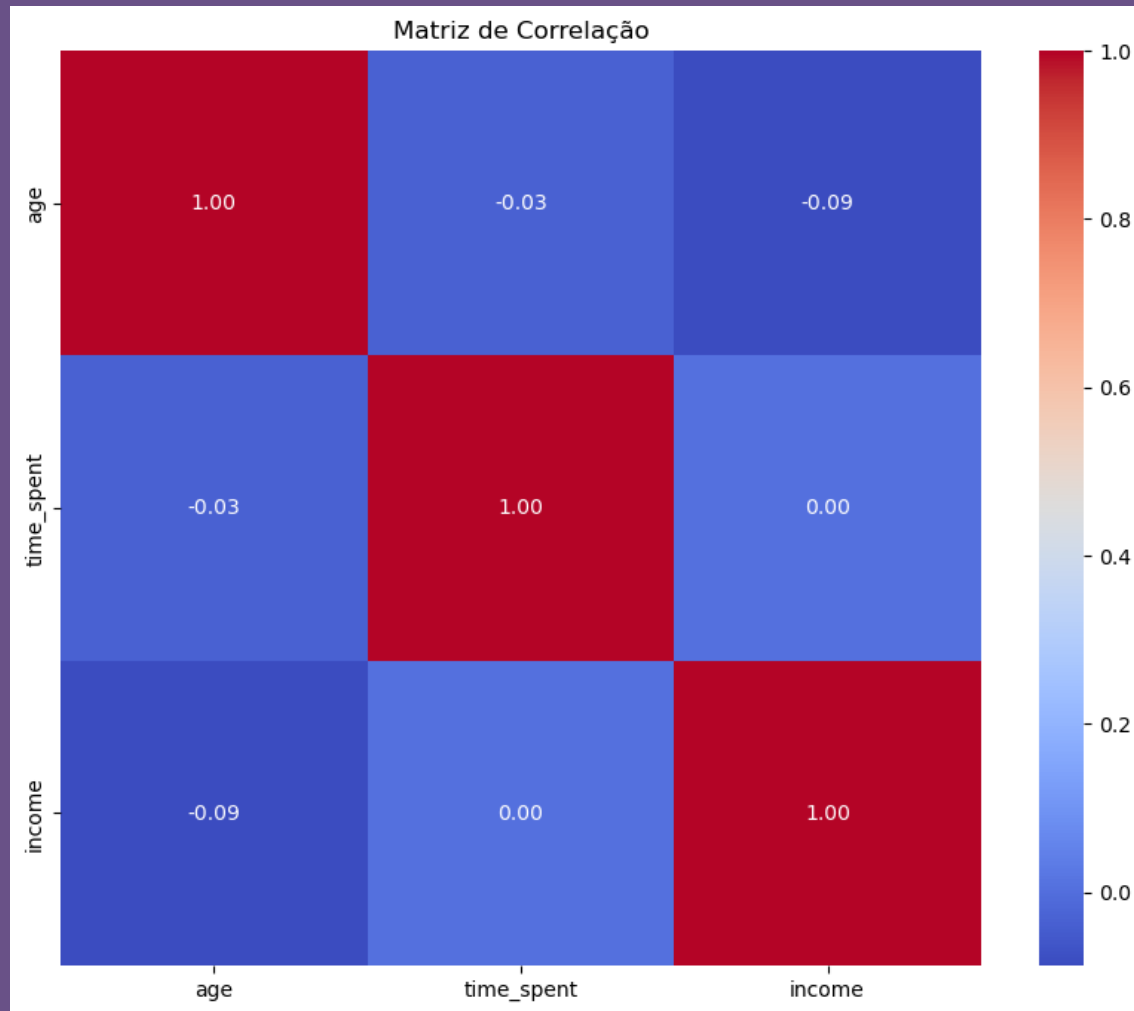
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados



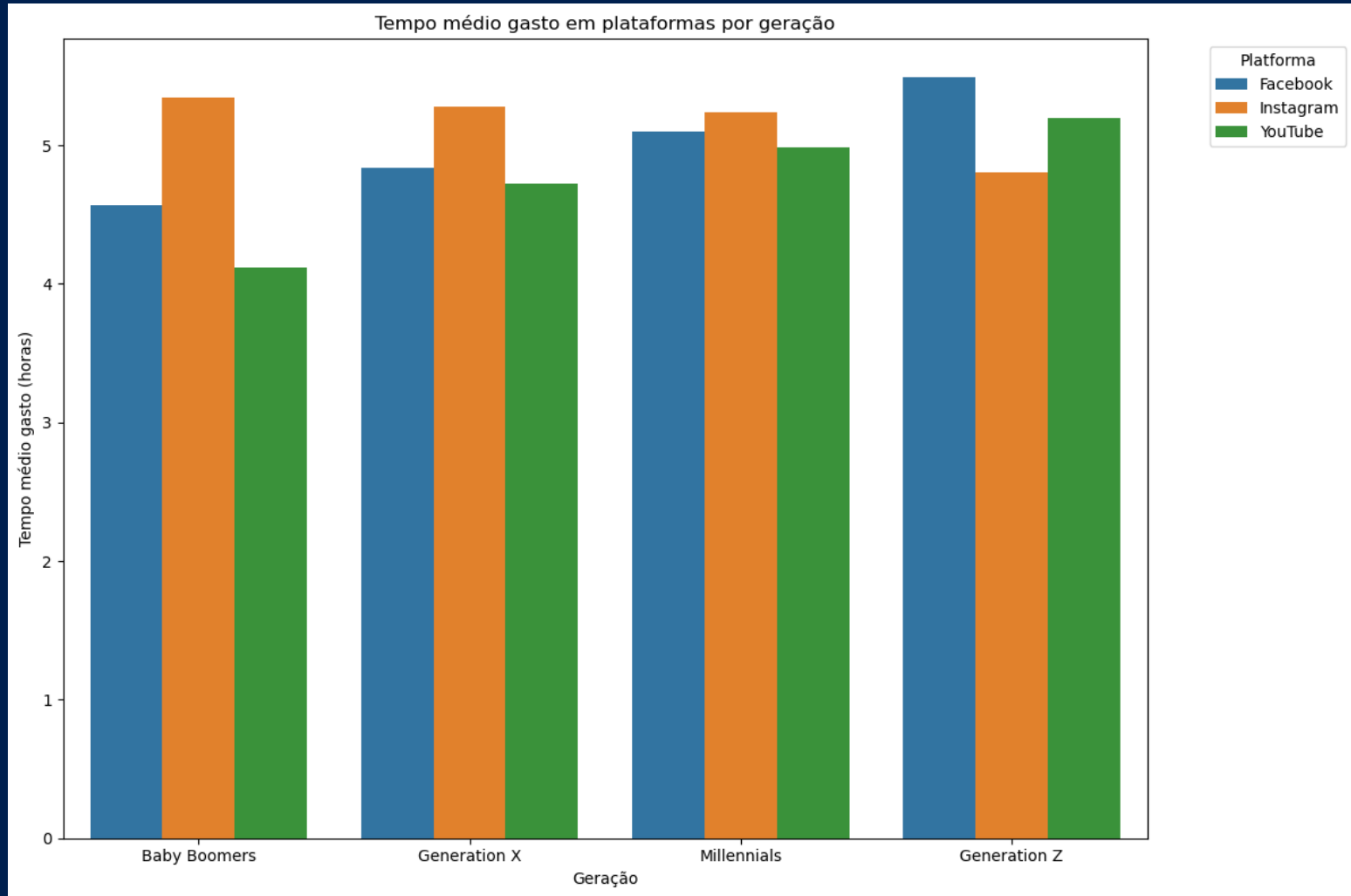
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados



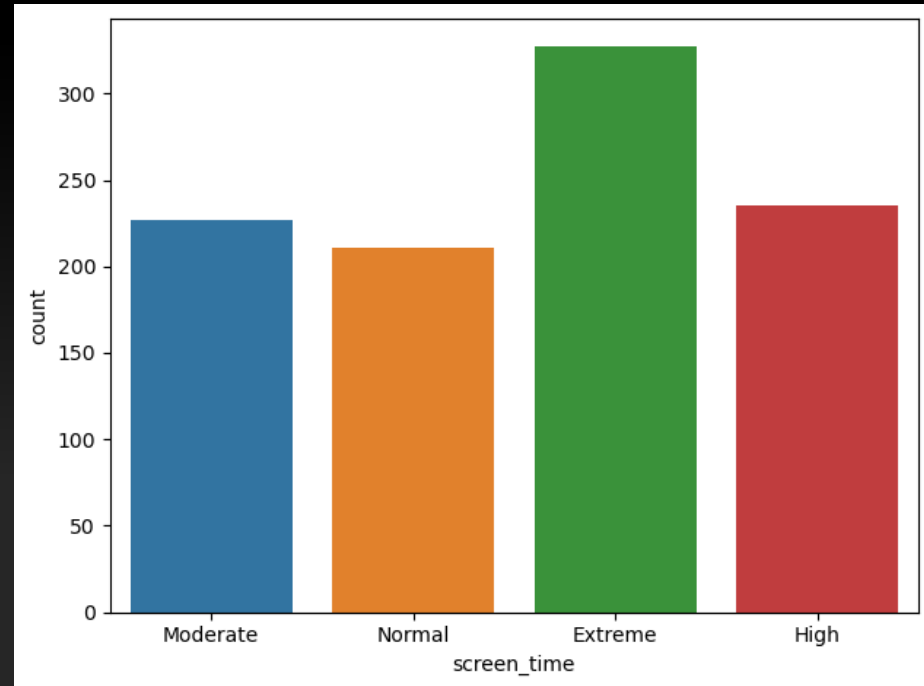
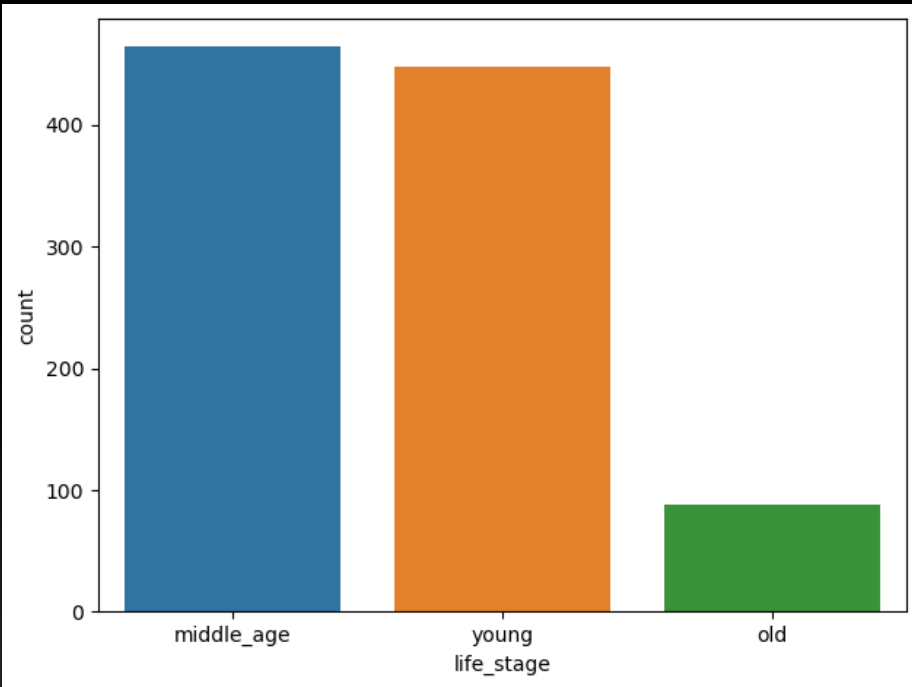
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Análise de dados



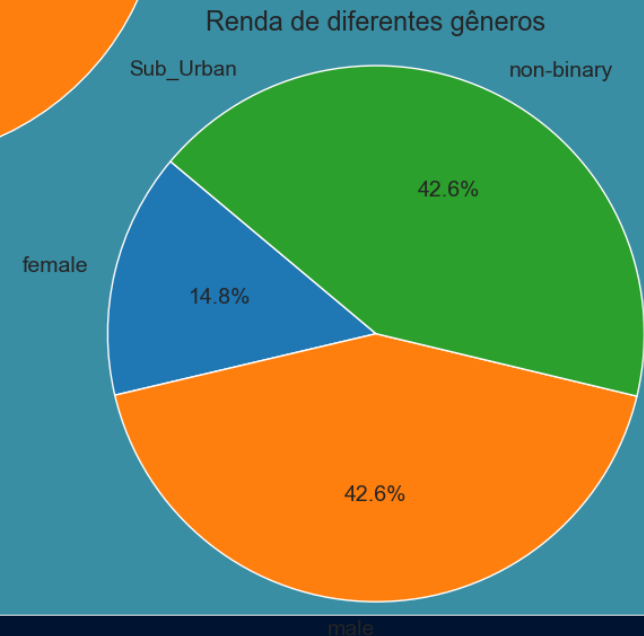
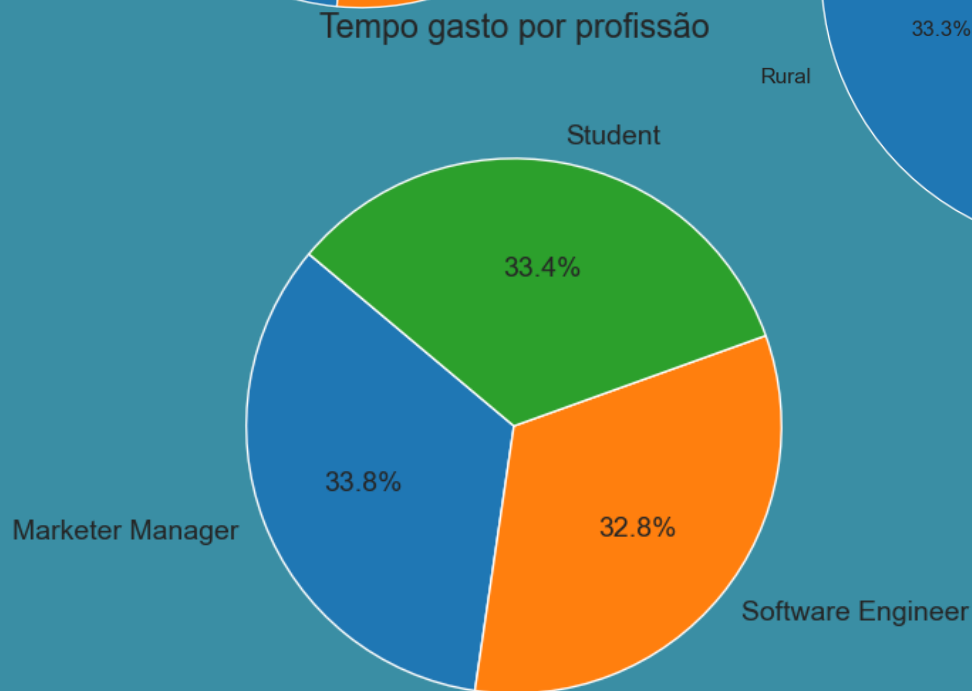
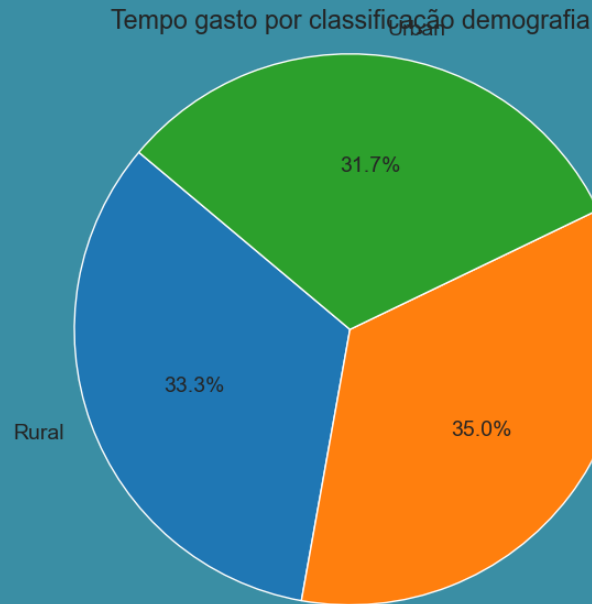
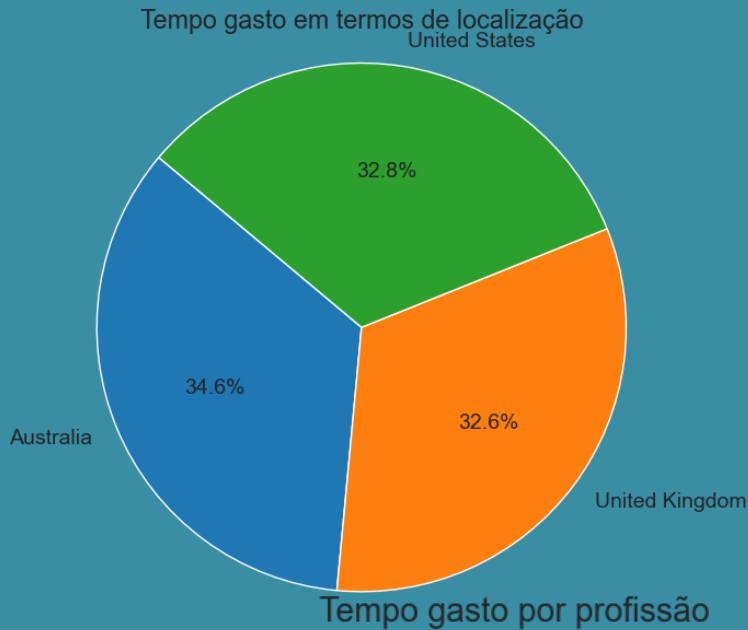
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados



AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

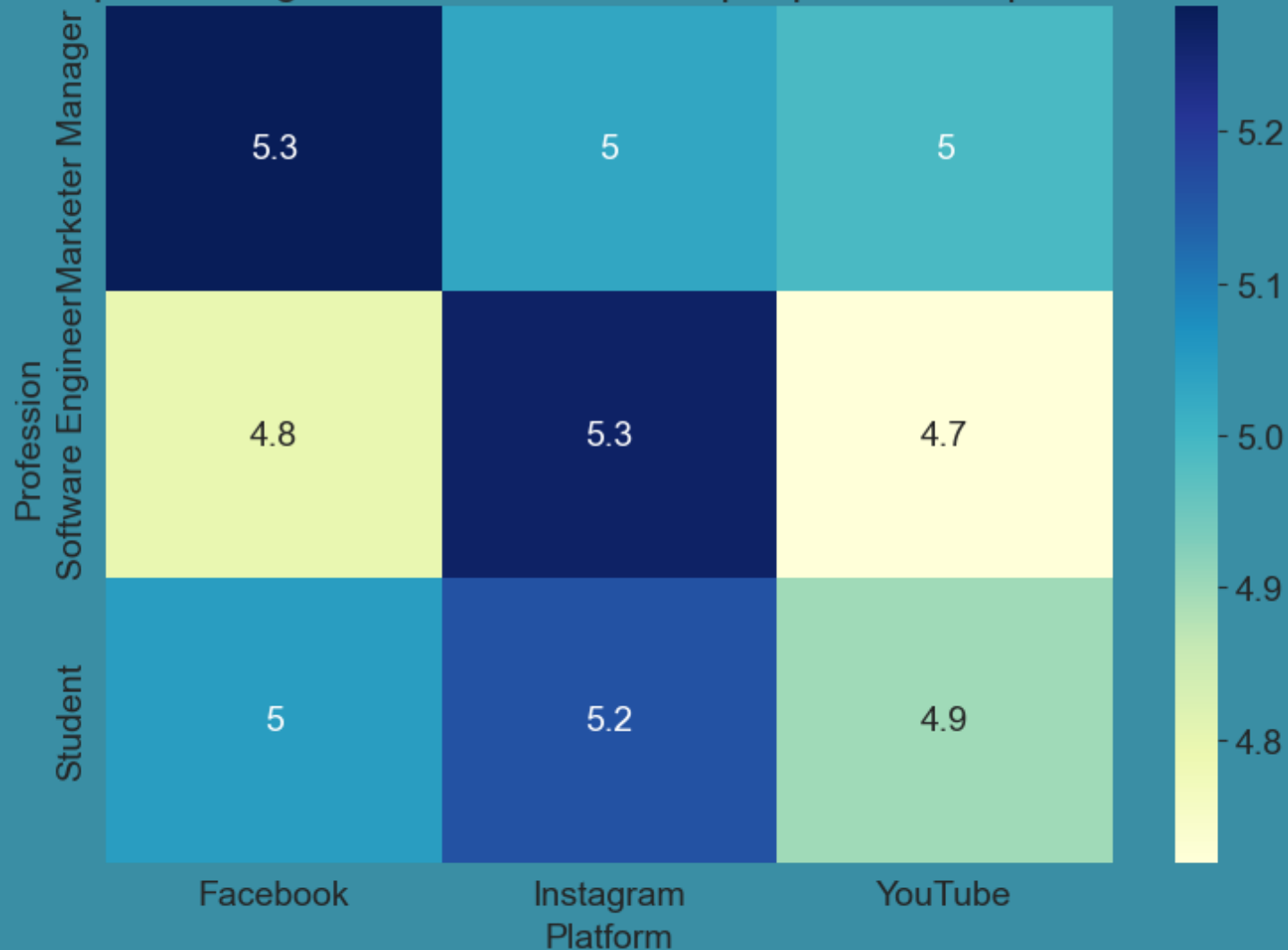
Análise de dados



AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados

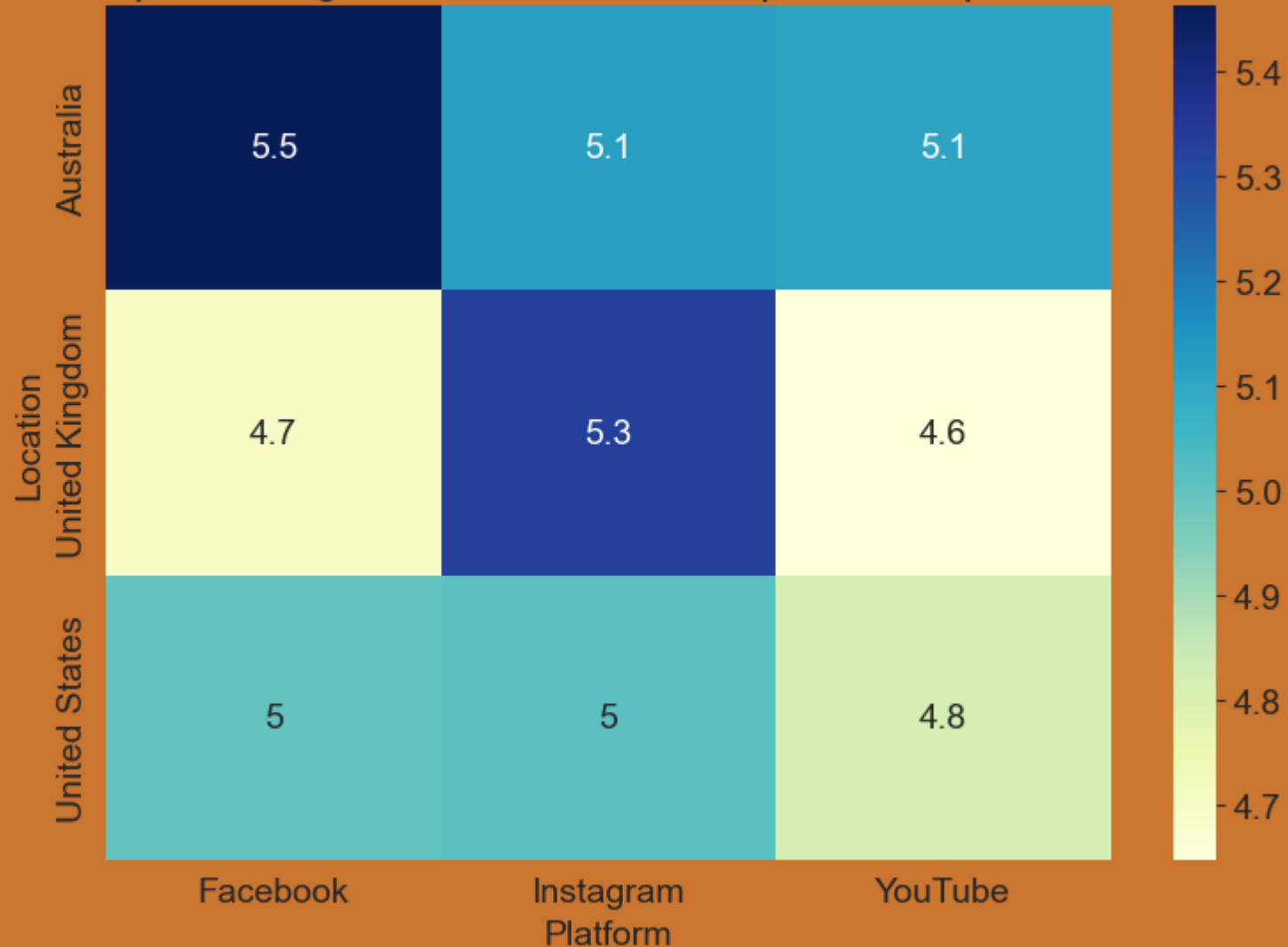
Tempo médio gasto nas redes sociais por profissão e plataforma



AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados

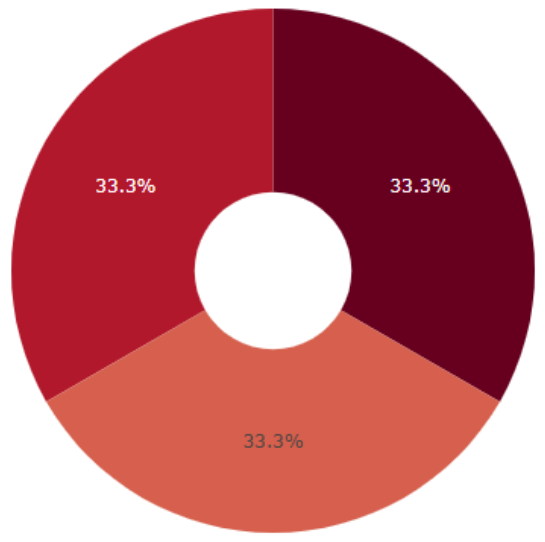
Tempo médio gasto nas redes sociais por local e plataforma



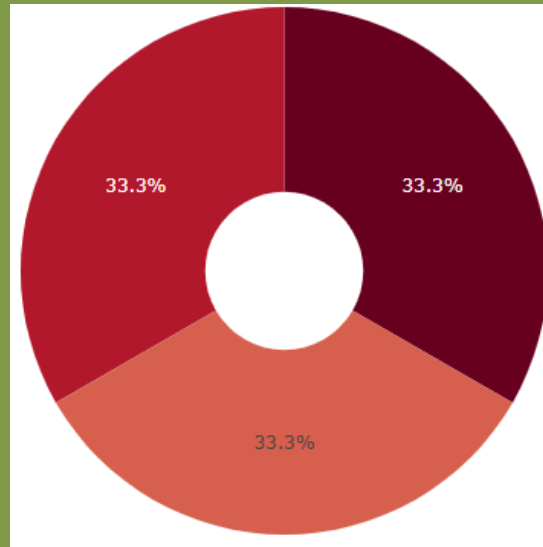
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados

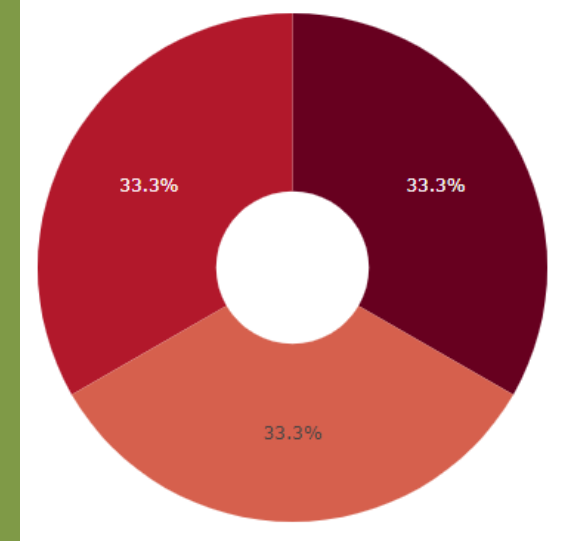
Plataforma x Idade



Plataforma x Gênero



Plataforma x Profissão

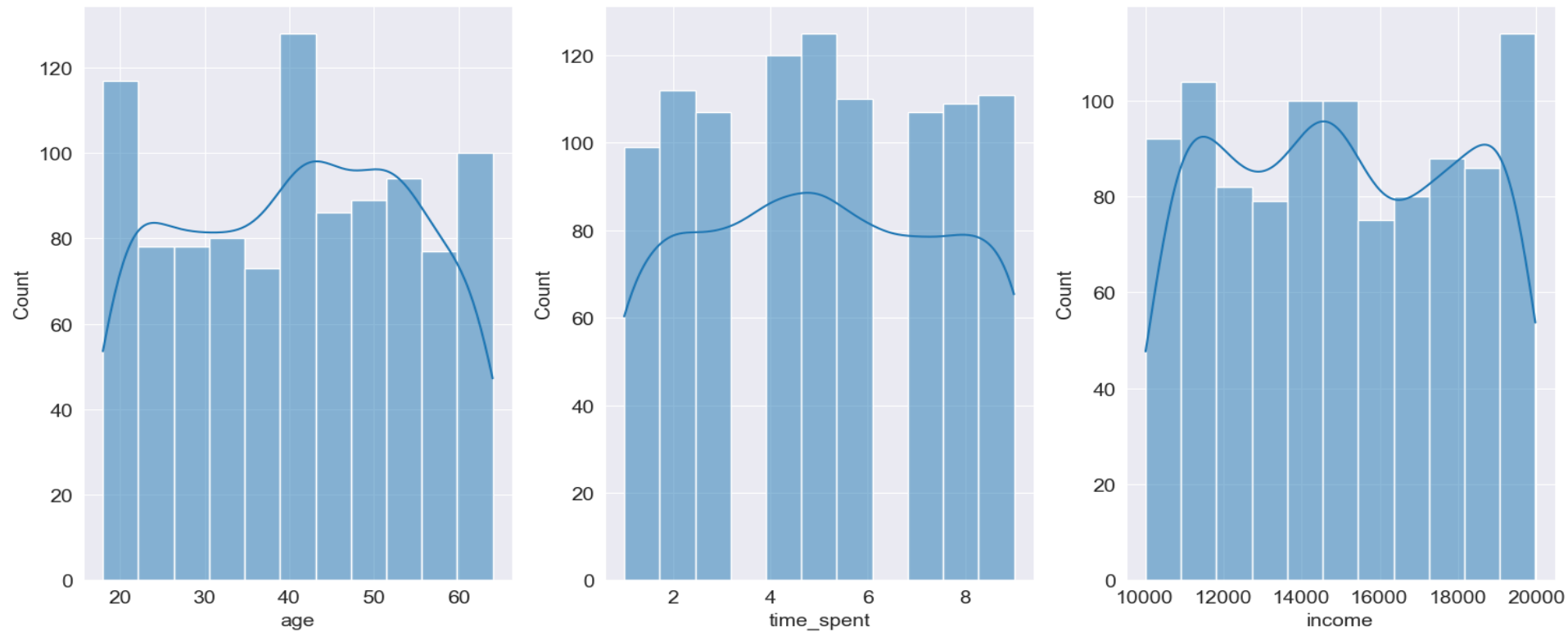


	Facebook	Instagram	YouTube	time_spent
profession				
Marketer Manager	110	128	117	5.095775
Software Engineer	94	128	114	4.949405
Student	103	107	99	5.038835



AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

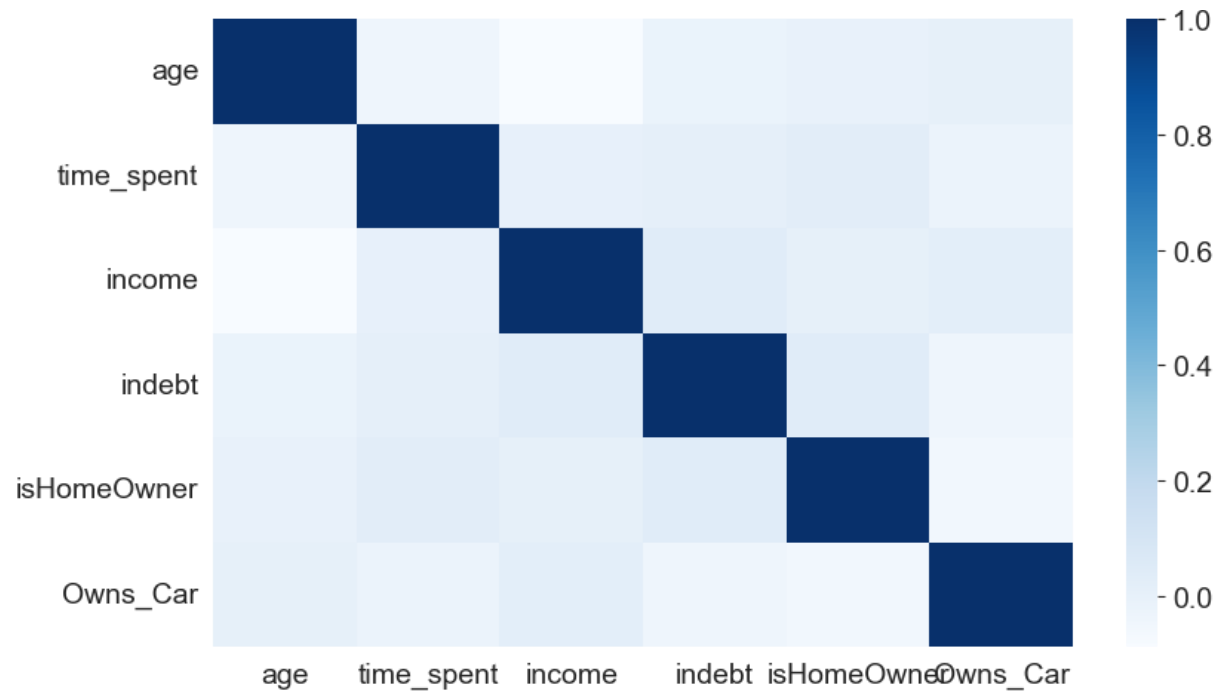
ANÁLISE DE DADOS



AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

ANÁLISE DE DADOS

	age	time_spent	income	indebt	isHomeOwner	Owns_Car
age	1.000000	-0.033827	-0.087391	-0.017055	-0.005321	0.006921
time_spent	-0.033827	1.000000	0.004757	0.013079	0.029388	-0.020271
income	-0.087391	0.004757	1.000000	0.037860	0.006072	0.019789
indebt	-0.017055	0.013079	0.037860	1.000000	0.038102	-0.035641
isHomeOwner	-0.005321	0.029388	0.006072	0.038102	1.000000	-0.051411
Owns_Car	0.006921	-0.020271	0.019789	-0.035641	-0.051411	1.000000



AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados

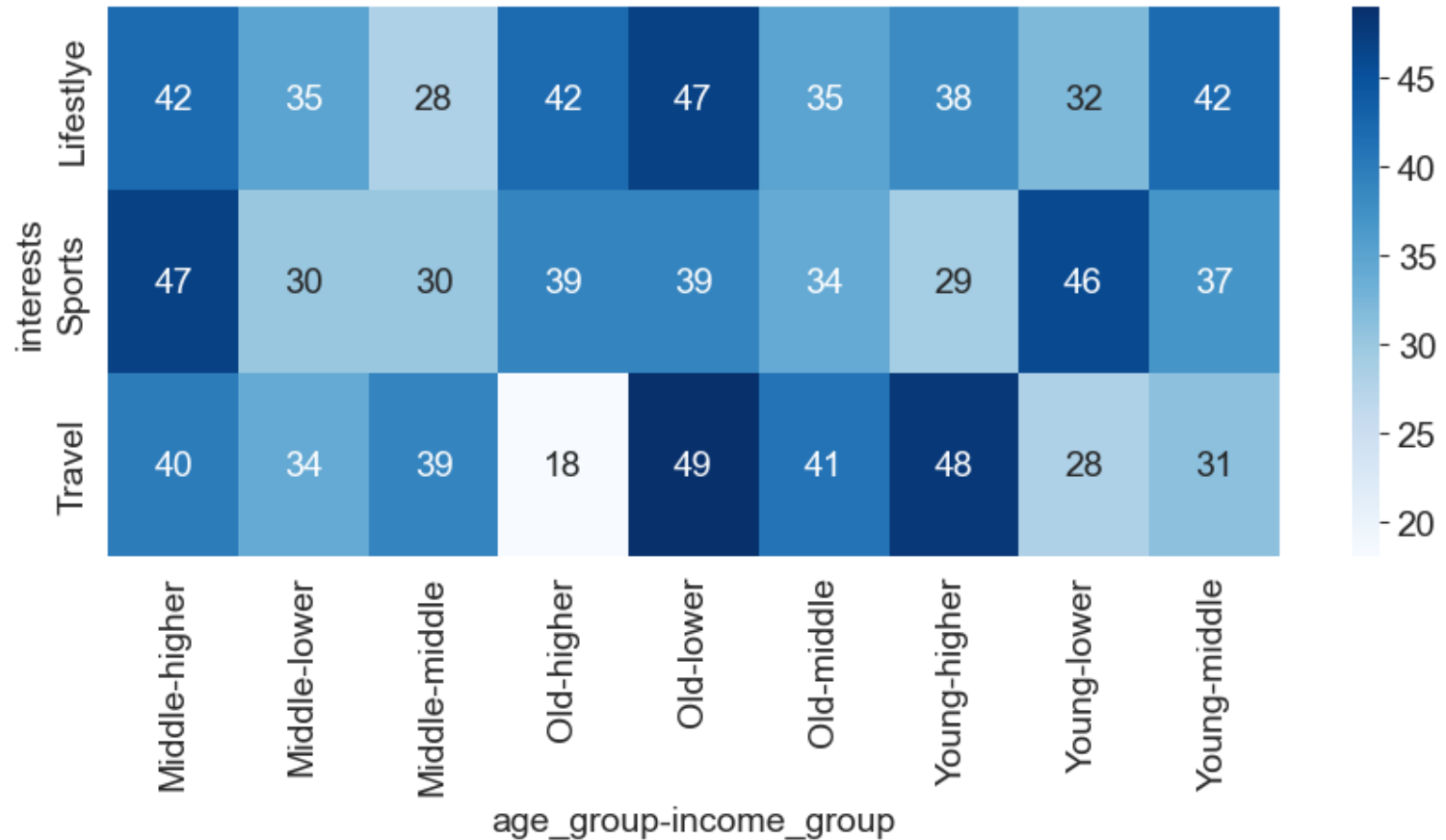
location	Australia			United Kingdom			United States		
demographics	Rural	Sub_Urban	Urban	Rural	Sub_Urban	Urban	Rural	Sub_Urban	Urban
platform									
Facebook	0.104235	0.136808	0.104235	0.100977	0.107492	0.140065	0.107492	0.100977	0.097720
Instagram	0.118457	0.118457	0.107438	0.126722	0.099174	0.096419	0.129477	0.107438	0.096419
YouTube	0.133333	0.127273	0.106061	0.106061	0.100000	0.112121	0.087879	0.109091	0.118182
All	0.119000	0.127000	0.106000	0.112000	0.102000	0.115000	0.109000	0.106000	0.104000

location	Australia			United Kingdom			United States			All
demographics	Rural	Sub_Urban	Urban	Rural	Sub_Urban	Urban	Rural	Sub_Urban	Urban	
platform										
Facebook	0.268908	0.330709	0.301887	0.276786	0.323529	0.373913	0.302752	0.292453	0.288462	0.307
Instagram	0.361345	0.338583	0.367925	0.410714	0.352941	0.304348	0.431193	0.367925	0.336538	0.363
YouTube	0.369748	0.330709	0.330189	0.312500	0.323529	0.321739	0.266055	0.339623	0.375000	0.330

location	Australia			United Kingdom			United States			All
demographics	Rural	Sub_Urban	Urban	Rural	Sub_Urban	Urban	Rural	Sub_Urban	Urban	
platform										
Facebook	0.032	0.042	0.032	0.031	0.033	0.043	0.033	0.031	0.030	0.307
Instagram	0.043	0.043	0.039	0.046	0.036	0.035	0.047	0.039	0.035	0.363
YouTube	0.044	0.042	0.035	0.035	0.033	0.037	0.029	0.036	0.039	0.330
All	0.119	0.127	0.106	0.112	0.102	0.115	0.109	0.106	0.104	1.000

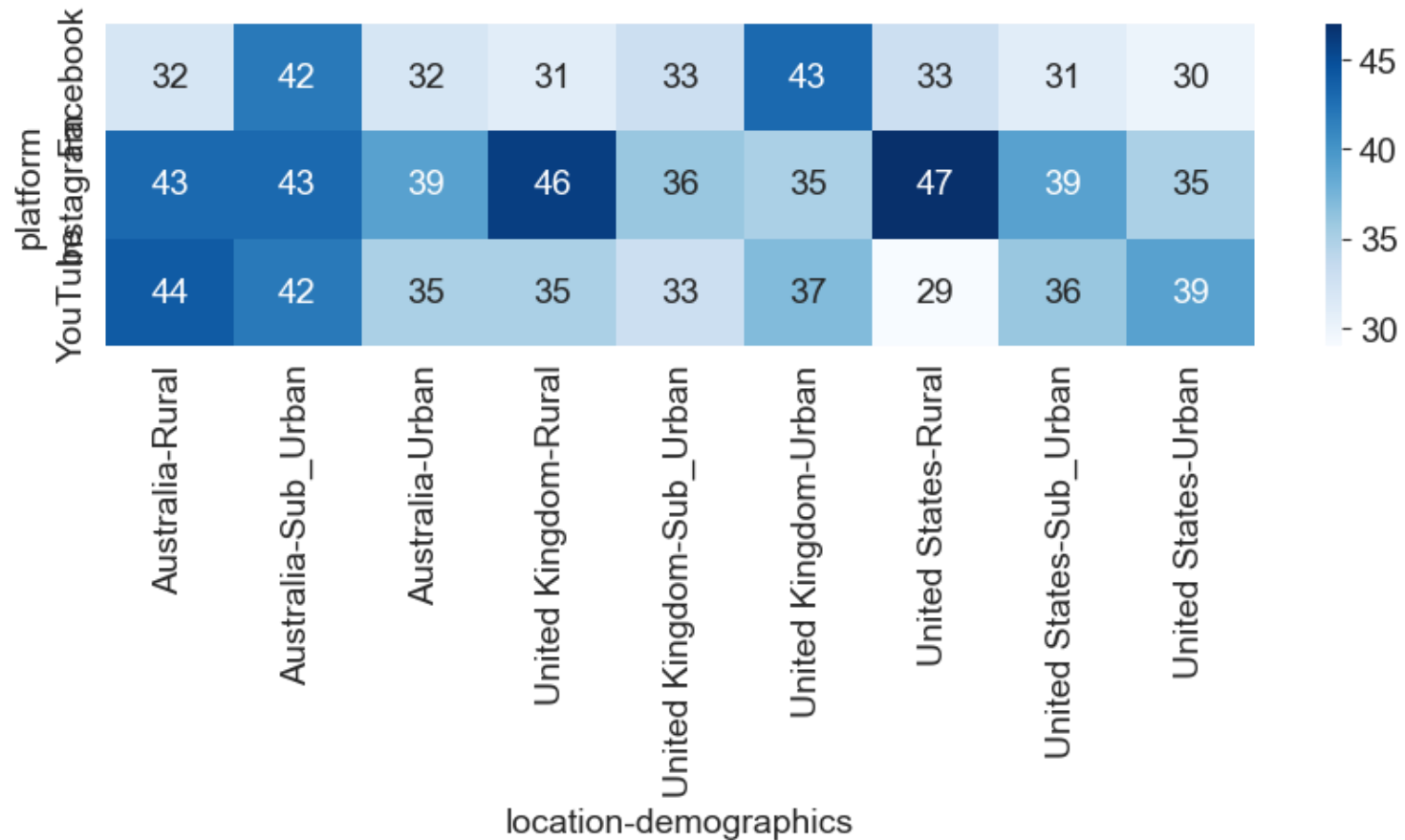
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

ANÁLISE DE DADOS



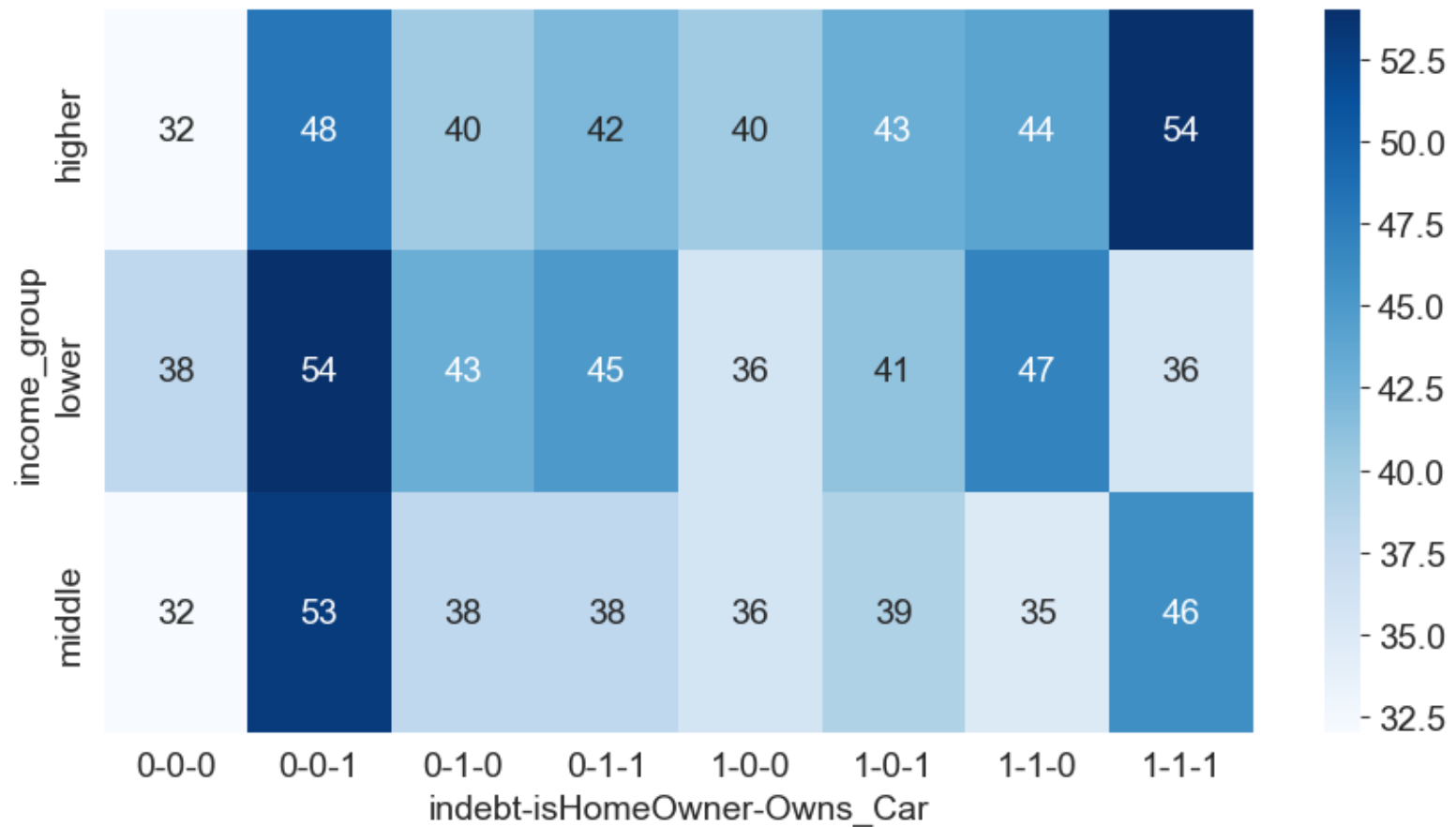
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

ANÁLISE DE DADOS



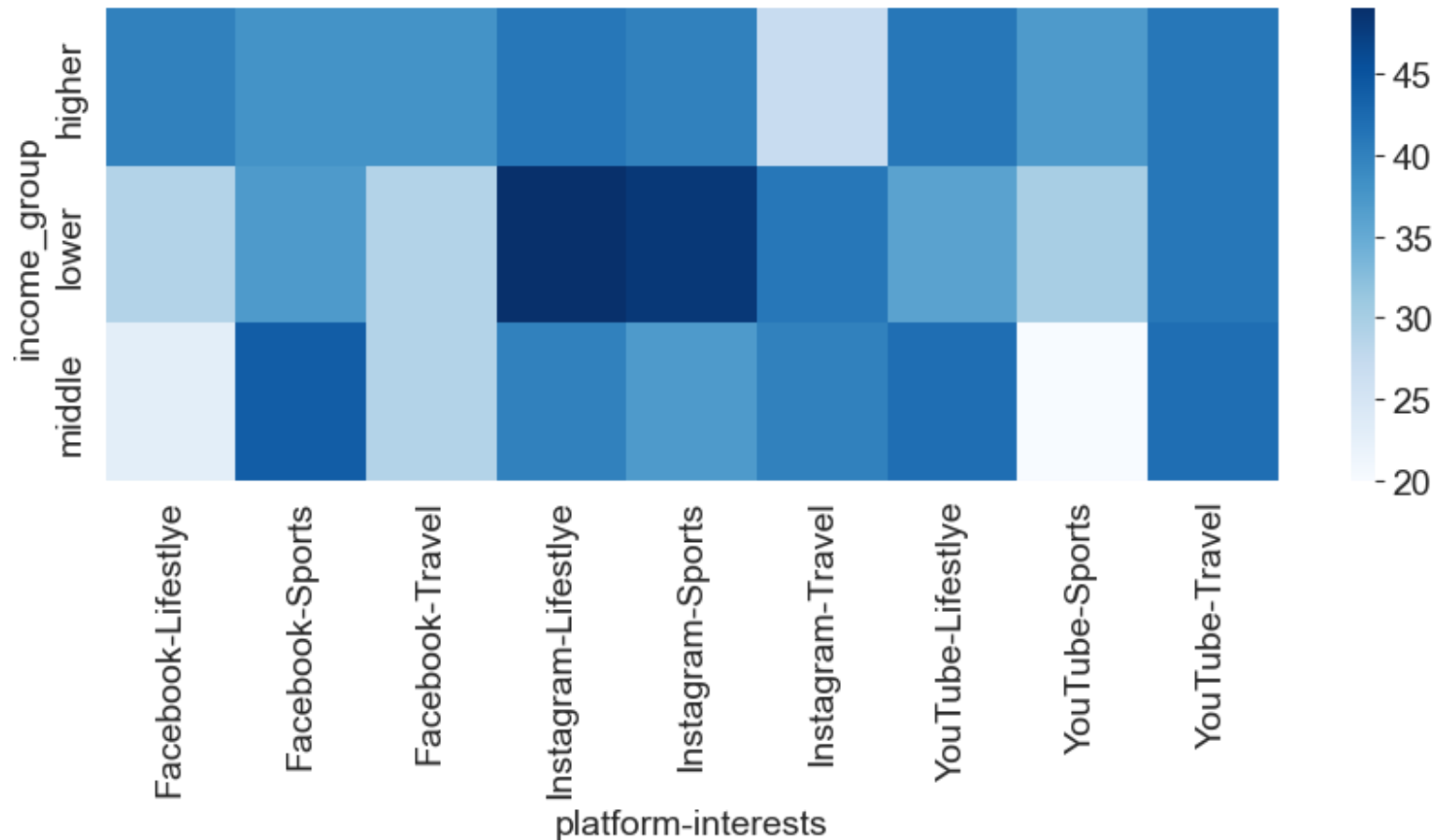
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

ANÁLISE DE DADOS



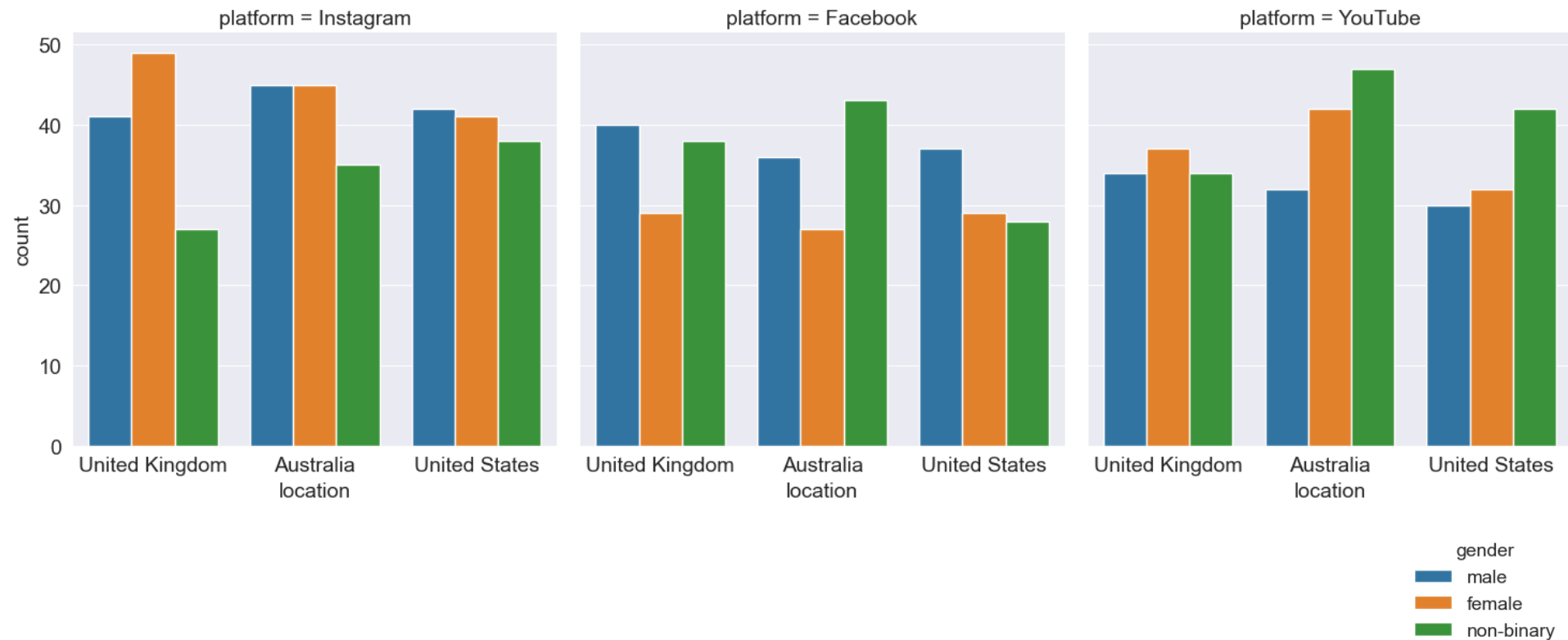
AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

ANÁLISE DE DADOS

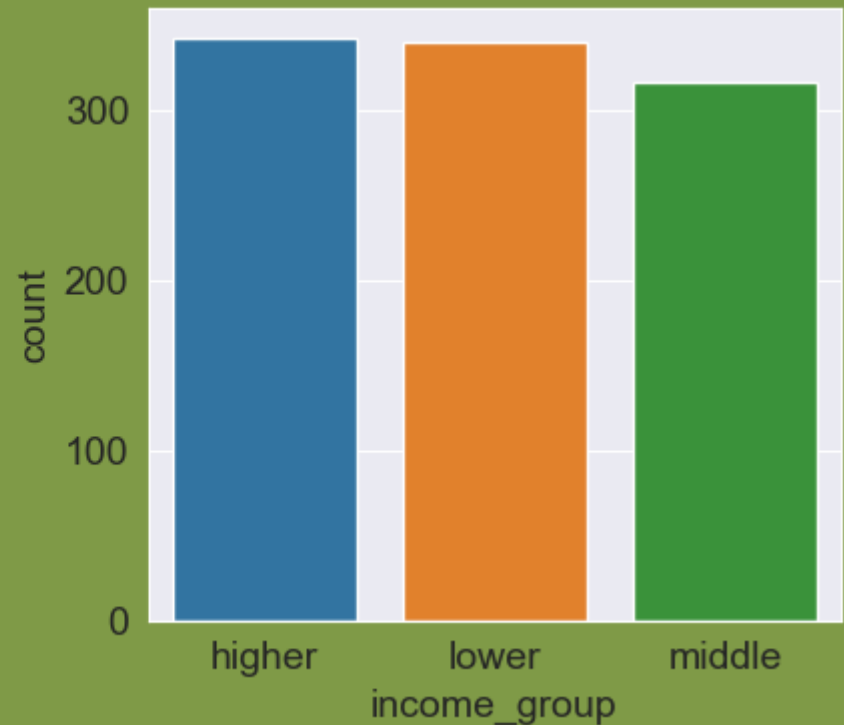
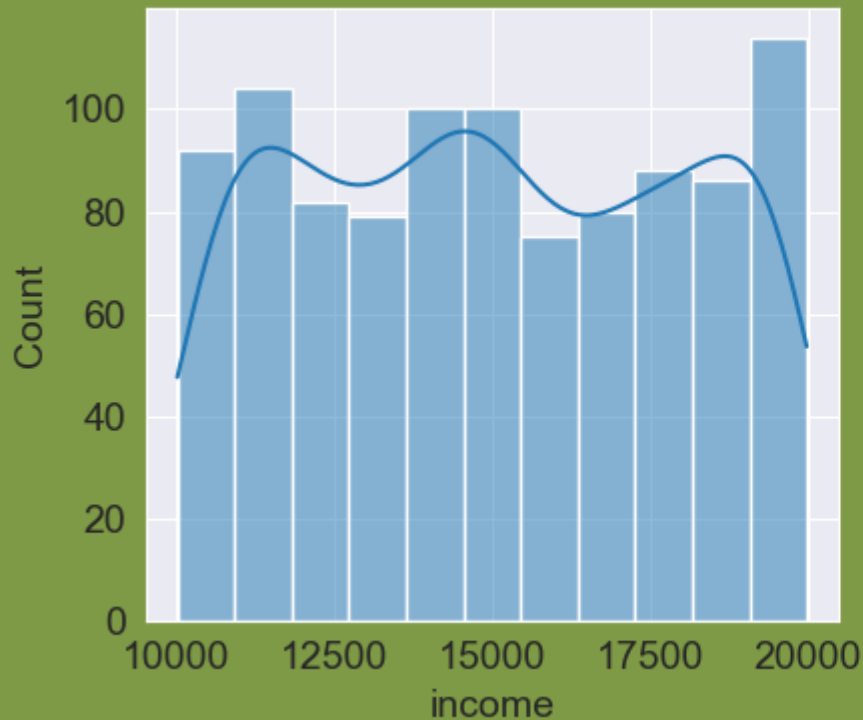


AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

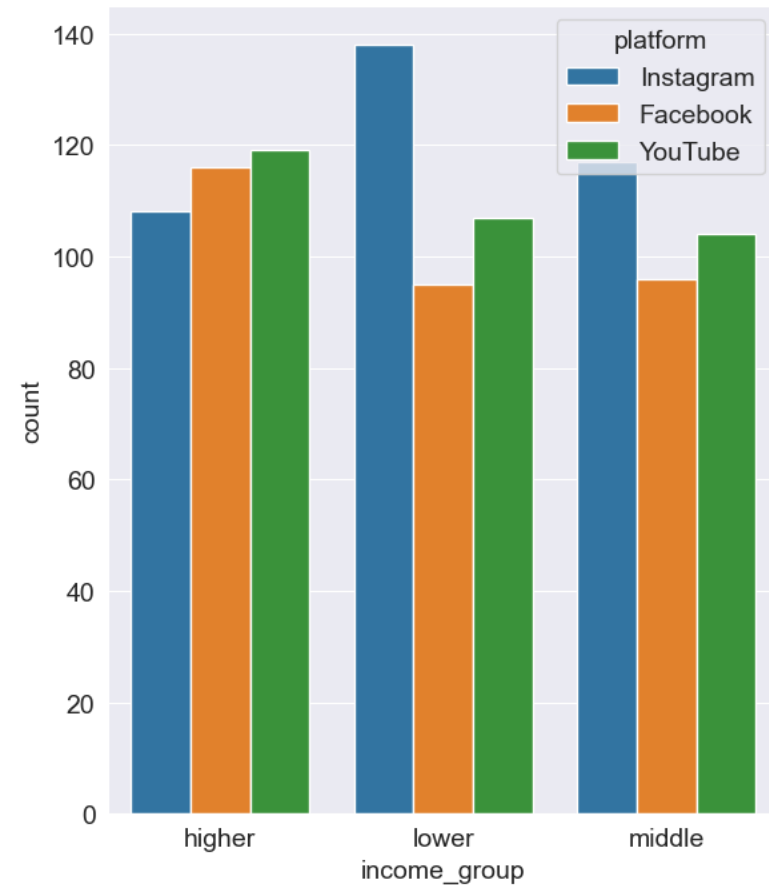
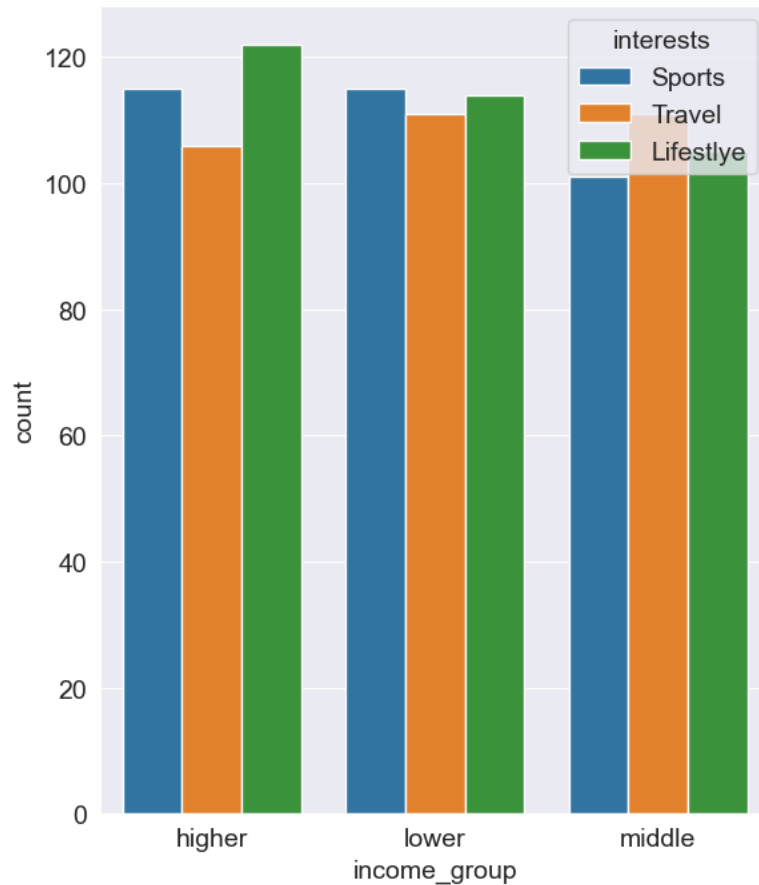
ANÁLISE DE DADOS



Análise de dados



ANÁLISE DE DADOS



AVERAGE TIME SPENT BY A USER ON SOCIAL MEDIA

Análise de dados

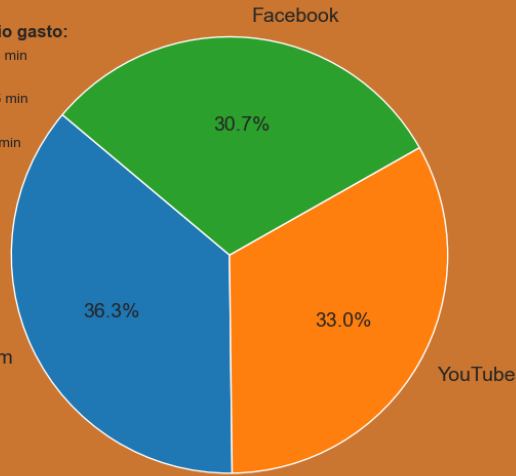
Distribuição por platform

Tempo médio gasto:

Facebook: 5.06 min

Instagram: 5.15 min

YouTube: 4.87 min



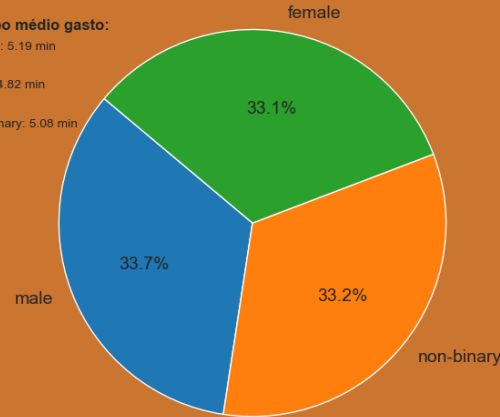
Distribuição por gender

Tempo médio gasto:

female: 5.19 min

male: 4.82 min

non-binary: 5.08 min



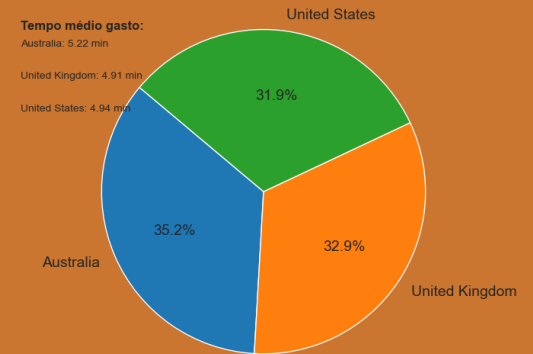
Distribuição por location

Tempo médio gasto:

Australia: 5.22 min

United Kingdom: 4.91 min

United States: 4.94 min



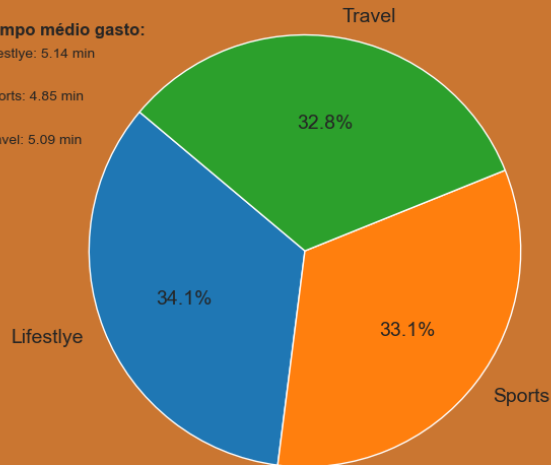
Distribuição por interests

Tempo médio gasto:

Lifestlye: 5.14 min

Sports: 4.85 min

Travel: 5.09 min



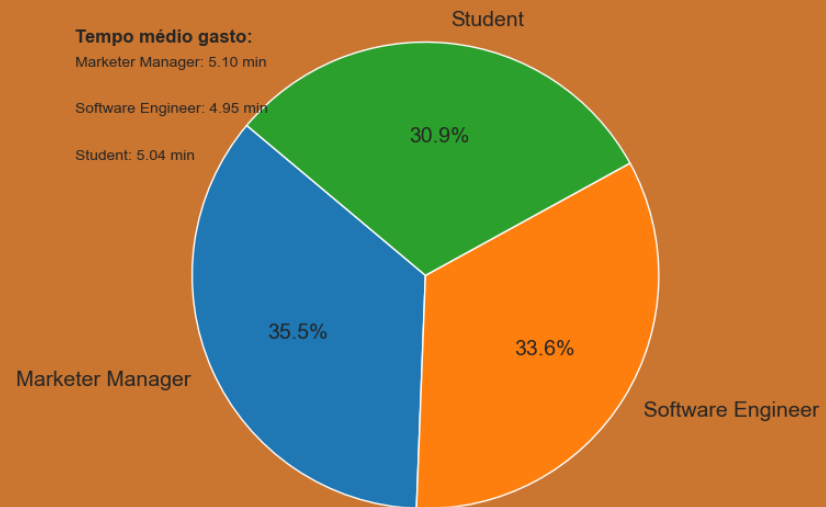
Distribuição por profession

Tempo médio gasto:

Marketer Manager: 5.10 min

Software Engineer: 4.95 min

Student: 5.04 min



ANÁLISE DOS ALGORITMOS E AVALIAÇÃO DOS RESULTADOS

RESULTADOS

Linear Regression:

Mean Squared Error: $3.0512002799783678e-15$

R-squared Score: 0.99999999999999996

Random Forest Regression:

Mean Squared Error: $2.7000000000000005e-05$

R-squared Score: 0.999995725666974

Gradient Boosting Regression:

Mean Squared Error: $5.345220802341236e-09$

R-squared Score: 0.9999999991538054

Support Vector Regression:

Mean Squared Error: 6.3378968889271246

R-squared Score: -0.00334377731154345

RE FE RÊN CIAS

[1] KAGGLE. Average Time Spent By A User On Social Media

Disponível em: <https://www.kaggle.com/datasets/imyjoshua/average-time-spent-by-a-user-on-social-media>

Acesso em 19/03/2024

