Fake Social Media **Profile** Detection

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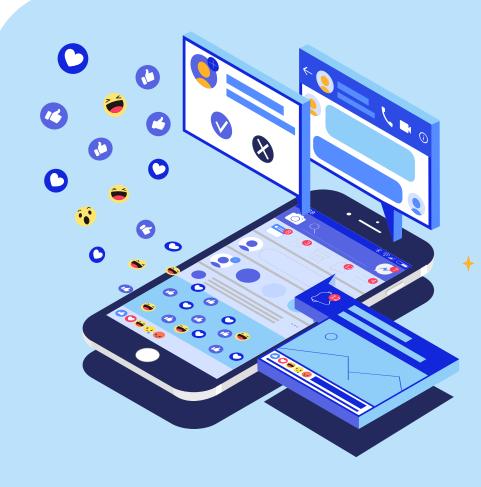


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Introduction

- Social media is apart of our lives
- January 2019, 3.484 billion people actively use social media
- Who is the influencer?

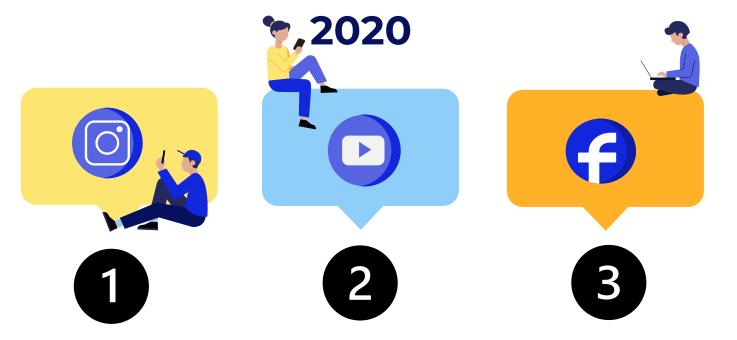


Objectives

- Find out the relationship between the features
- Project Idea: Classification of Fake/ not fake accounts using machine learning capabilities
- Test the model on real life influencers accounts
- Find out the number of followers

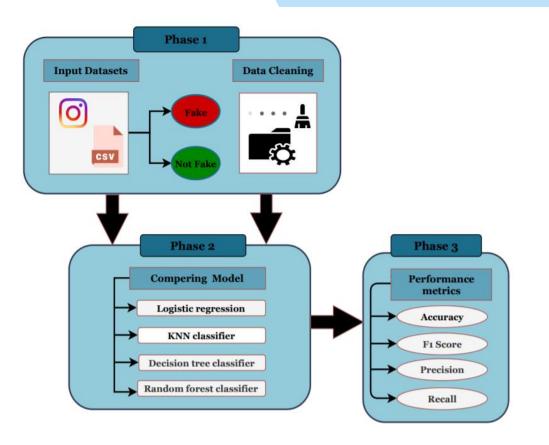


TOP SOCIAL NETWORKING SITES in



Source: https://www.adobe.com/express/learn/blog/top-social-media-sites

Methodology



Correlation between features

profile pic -	1	-0.36	0.21	-0.13	-0.12	0.37	0.24	0.11	0.17	0.061	0.19	-0.64
nums/length username -	-0.36	1	-0.23	0.41	0.057	-0.32	-0.24	-0.064	-0.16	-0.063	-0.17	0.59
fullname words -		-0.23	1	-0.094	-0.083	0.27		-0.089	0.073	0.033	0.095	-0.3
nums/length fullname -	-0.13	0.41	-0.094	1	0.29	-0.12	-0.089	-0.03	-0.058	-0.027	-0.068	0.25
name==username -	-0.12	0.057	-0.083	0.29	1	-0.065	-0.039	0.046	-0.05	-0.018	-0.0095	
description length -	0.37	-0.32	0.27	-0.12	-0.065	1	0.48	-0.11	0.14	0.0059		-0.46
external URL -		-0.24		-0.089	-0.039	0.48	1	-0.16		0.027	0.14	-0.36
private -	0.11	-0.064	-0.089	-0.03	0.046	-0.11	-0.16	1	-0.087	-0.073	-0.058	-0.029
#posts -		-0.16	0.073	-0.058	-0.05	0.14		-0.087	1	0.32	0.098	-0.25
#followers -	0.061	-0.063	0.033	-0.027	-0.018	0.0059	0.027	-0.073	0.32	1	-0.011	-0.094
#follows -	0.19	-0.17	0.095	-0.068	-0.0095	0.23	0.14	-0.058	0.098	-0.011	1	-0.22
fake -	-0.64	0.59	-0.3	0.25		-0.46	-0.36	-0.029	-0.25	-0.094	-0.22	1
	pic -	ame -	ords -	ame -	ame -	igth -	URL-	/ate -	osts -	vers -	- SWO	fake -

- 0.8

- 0.2

- -0.2

-0.4

- -0.6



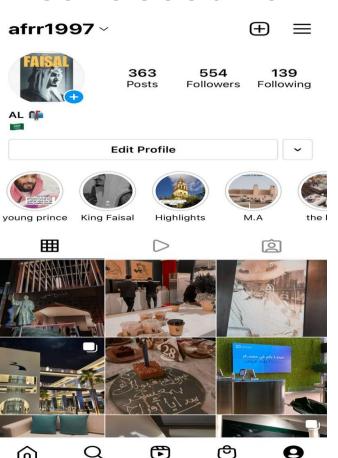
Evaluation

Accuracy Comparing

Classifier	Accuracy	Precision	Recall	F1-Score	
Logistic Regression	0.908	0.95	0.876	0.912	
KNN Classifier	0.866	0.833	0.877	0.854	
Decision Tree Classifier	0.875	0.833	0.909	0.869	
Random Forest Classifier	0.925	0.916	0.932	0.924	

Apply the model on real life account

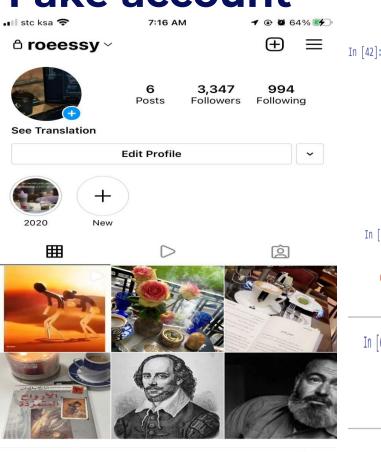
Real account



```
In [41]: ▶ def login():
                username = input("username: ")
                password = getpass.getpass("password: ")
                api = Client(username, password)
                return api
            api = login()
             username: afrr1997
             password: .....
In [47]: ▶ #Check the number of followers
             len(followers)
   Out[47]: 554
 In [62]: M auth = (len(random_followers) - no_fakes) * 100 / len(random_followers)
             print("User X's Instagram Followers is " + str(auth) + "% authentic.")
```

User X's Instagram Followers is 70.0% authentic.

Fake account



```
In [42]: ► def login():
                username = input("username: ")
                password = getpass.getpass("password: ")
                api = Client(username, password)
                return api
            api = login()
            username: roeessy
            password: ······
   In [48]: ► #Check the number of followers
                len(followers)
      Out[48]: 3347
```

```
In [62]: M auth = (len(random_followers) - no_fakes) * 100 / len(random_followers)
print("User X's Instagram Followers is " + str(auth) + "% authentic.")
```

User X's Instagram Followers is 51.42857142857143% authentic.

Future work

- Apply the model on Facebook.
- Create an application to find real influencers.
- Use other analyzes of classification such as the classification of followers by geographic region or age group.

Thank you, any Question?

