

# Хакатон Neuron

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# Этапы поиска решения

- ARIMA
- Facebook Prophet(<https://facebookincubator.github.io/prophet/>)

= profit!

# Обработка данных

```
In [2]: data = pd.read_csv('newfile.txt', header=None)
data.columns = ['user_id', 'article_id', 'timestamp']
```

Все данные за последнюю неделю

```
In [3]: data
```

	user_id	article_id	timestamp
0	670867447723975116	903997	1491103042
1	9045135912186164691	910806	1491103049
2	-3845874856441135880	110001	1491103038
3	3484823826428882284	991512	1491103072
4	3901029504172386522	991512	1491103038
5	-6271618004503071082	991512	1491103068
6	-3594418042680904904	990369	1491103041
7	6908052413852289800	990369	1491103077
8	3901029504172386522	990369	1491103073
9	-2071136980263269168	990369	1491103042
10	6498422184692261367	990369	1491103043

Количество статей в датасете

```
In [4]: views_dict = data['article_id'].value_counts().to_dict()
views_dict
```

```
df1 = data[data['article_id'] == k]
df1['timestamp'] = pd.to_datetime(df1['timestamp'],unit='s')
df1.index = df1['timestamp']
del df1['timestamp']
df1['views'] = 1

del df1['user_id']
del df1['article_id']

study_data = df1.resample('2H').sum()

study_data.fillna(0)
```

# Работа библиотеки

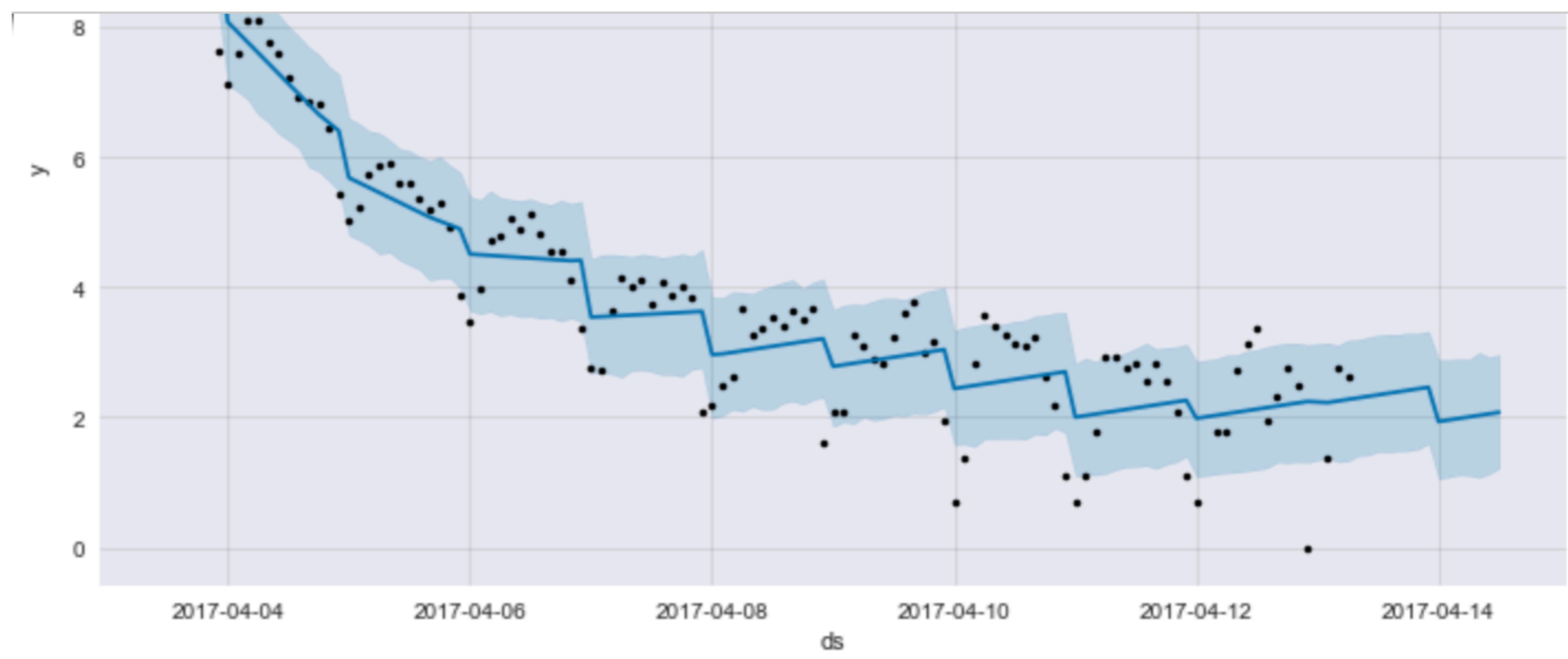
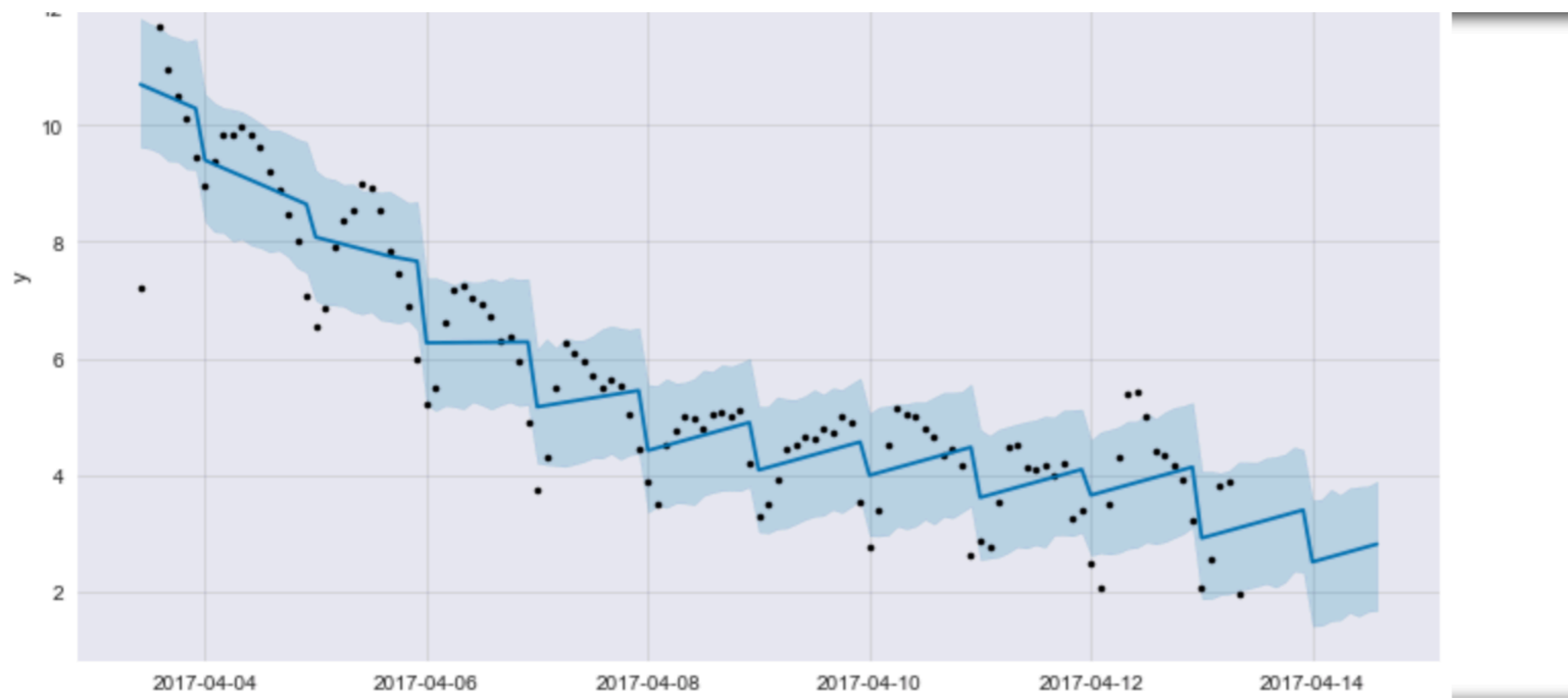
```
m = Prophet(changepoint_prior_scale=0.5)
m.fit(df)

future = m.make_future_dataframe(periods=15, freq='2H')
future.tail()
forecast = m.predict(future)
print(forecast[['ds', 'yhat', 'yhat_lower', 'yhat_upper']].tail())
m.plot(forecast)
plt.show()

forecast.index = forecast['ds']
del forecast['ds']

forecast_predict = forecast['2017-04-14 08:00:00': '2017-04-14 14:00:00']

forecast_count = abs(forecast_predict['yhat'].mean())
forecast_predict['yhat']
if math.isnan(forecast_count):
    prediction = "{}, {} \n".format(k, 0)
else :
    prediction = "{}, {} \n".format(k, int(forecast_count))
print(prediction)
final_prediction.write(prediction)
```



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Спасибо за внимание!

[https://github.com/0just0/Neuro\\_hack\\_2017.git](https://github.com/0just0/Neuro_hack_2017.git)