

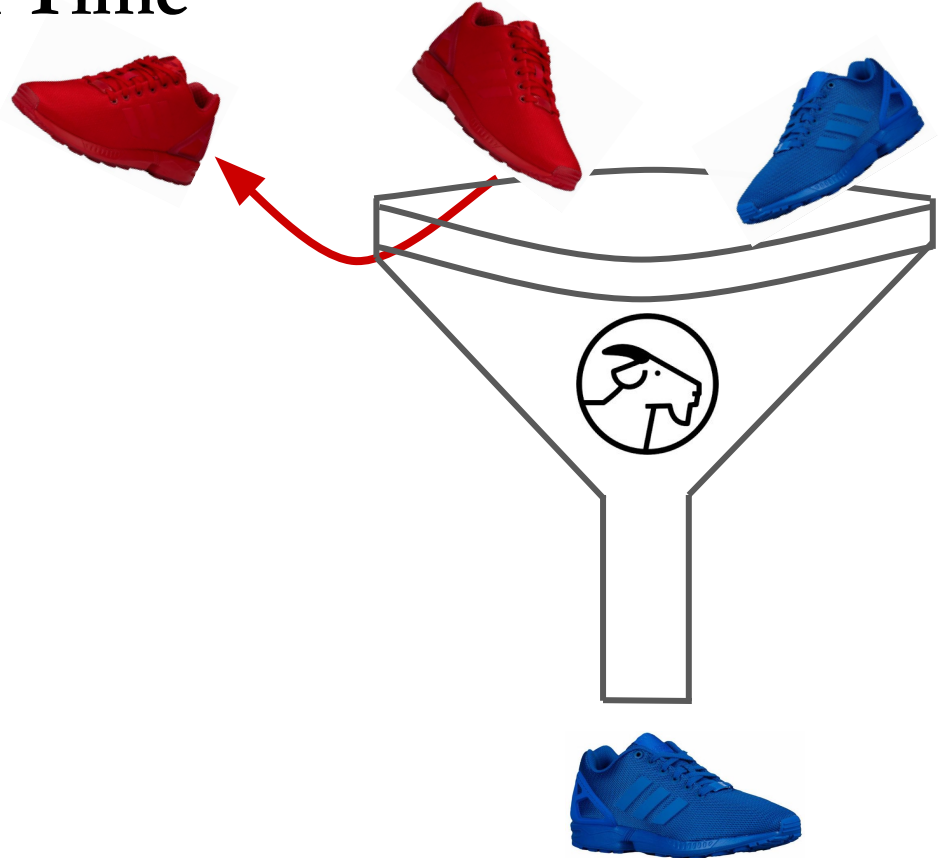


# FraudBuster

Saina Lajevardi

# GOAT: Greatest Of All Time

- mobile app for sneaker lovers
- it guarantees the purchases



# Fraud



stolen identity

fake sneakers



# Current Fraud Detector

- the system is not automated
- it requires extensive man hours
- it is also expensive



# Current Fraud Detector

- the system is not automated
- it requires extensive man hours
- it is also expensive

**inefficient**



# Deliverable: My Fraud Detector

- an **automated** fraud detection model to verify any order **efficiently** and **accurately**



# Deliverable: My Fraud Detector

- an **automated** fraud detection model to verify any order **efficiently** and **accurately**

# FraudBuster



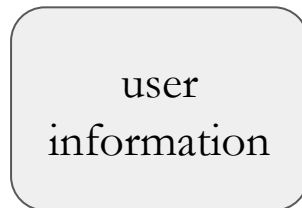
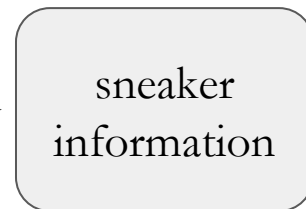
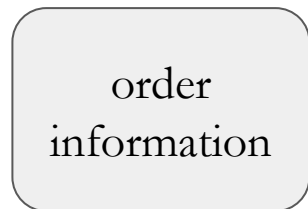
**Data Exploration**  
(100K+ records)



**Feature Selection  
& Engineering**



**Random Forest  
Classifier**





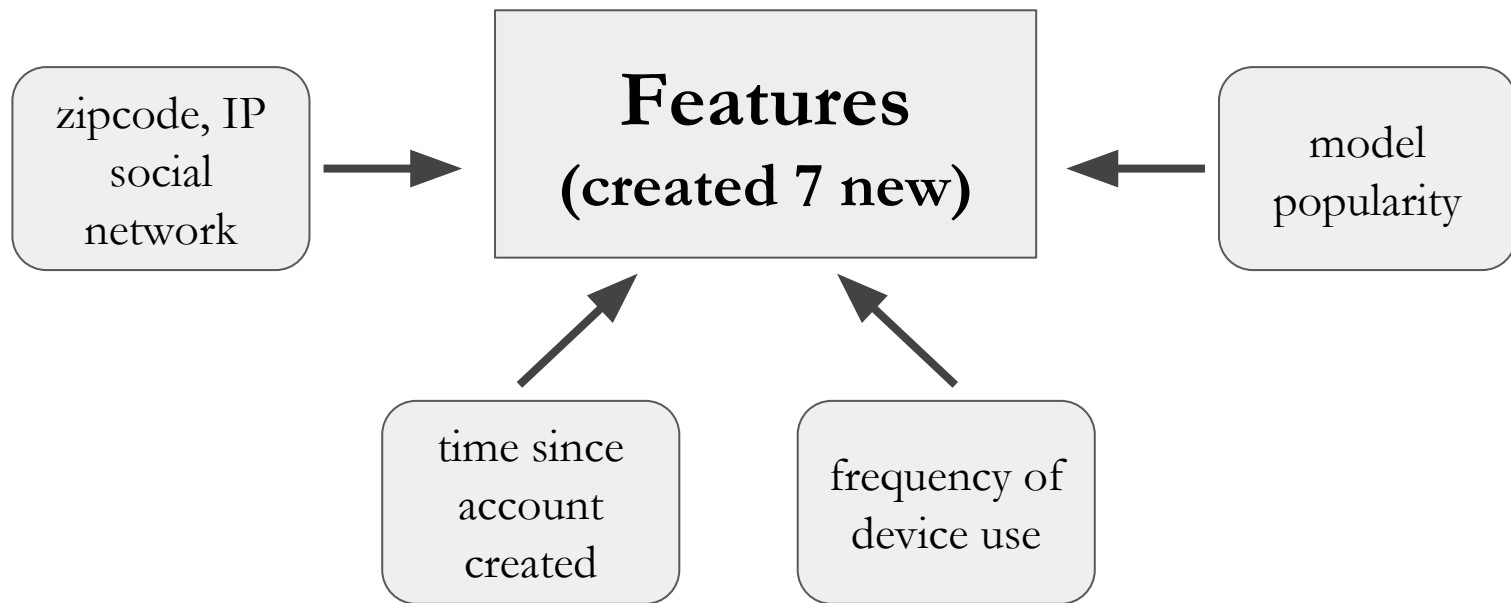
**Data Exploration**  
(100K+ records)



**Feature Selection  
& Engineering**



**Random Forest  
Classifier**



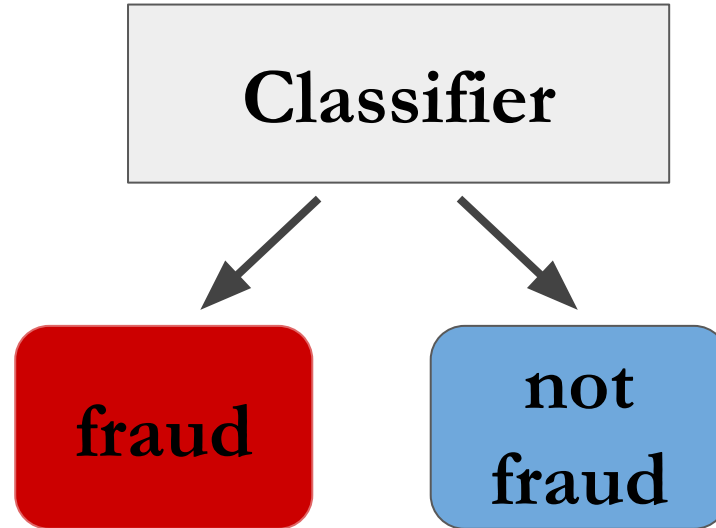
**Data Exploration**  
(100K+ records)



**Feature Selection  
& Engineering**



**Random Forest  
Classifier**





# FraudBuster Performance

recall	0.87
precision	0.84
AUC	0.97



# FraudBuster vs Current Model



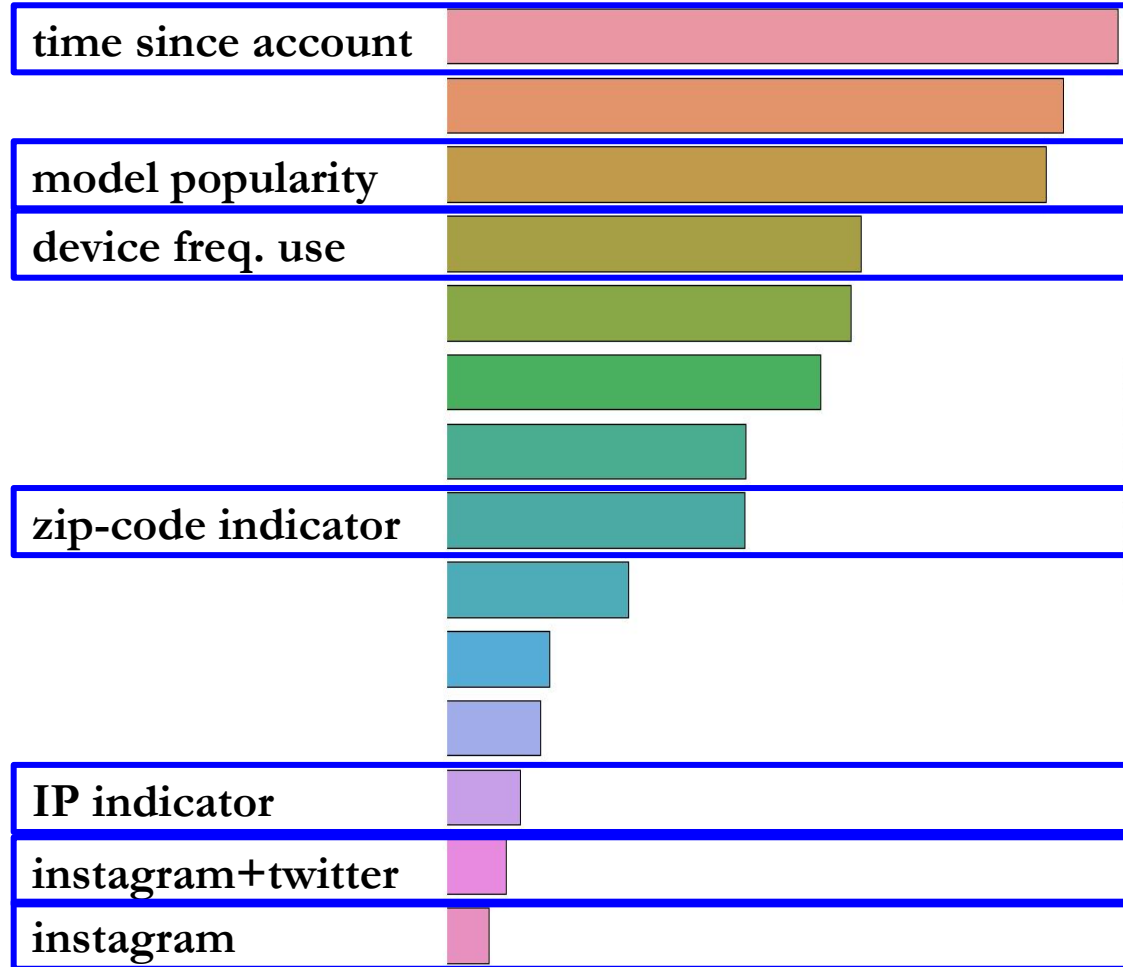
**Recall:** 52% to 87% (**>1.67x**)



**FPR:** 8.7% to 0.6% (**>14.5x**)

# Features

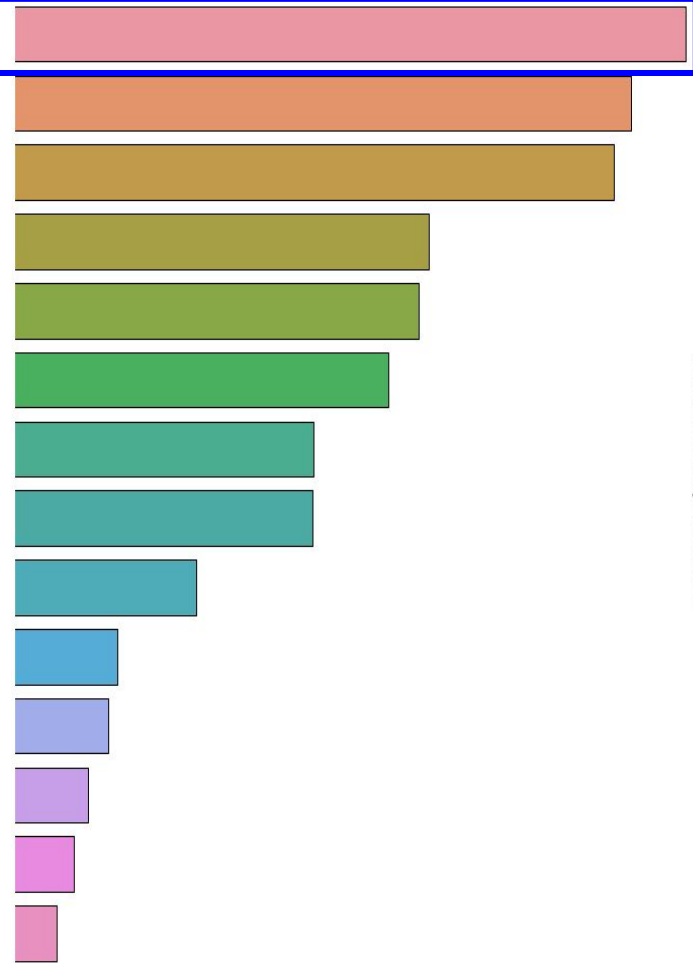
I **created** 7 new  
features  
and **selected** 7  
existing ones



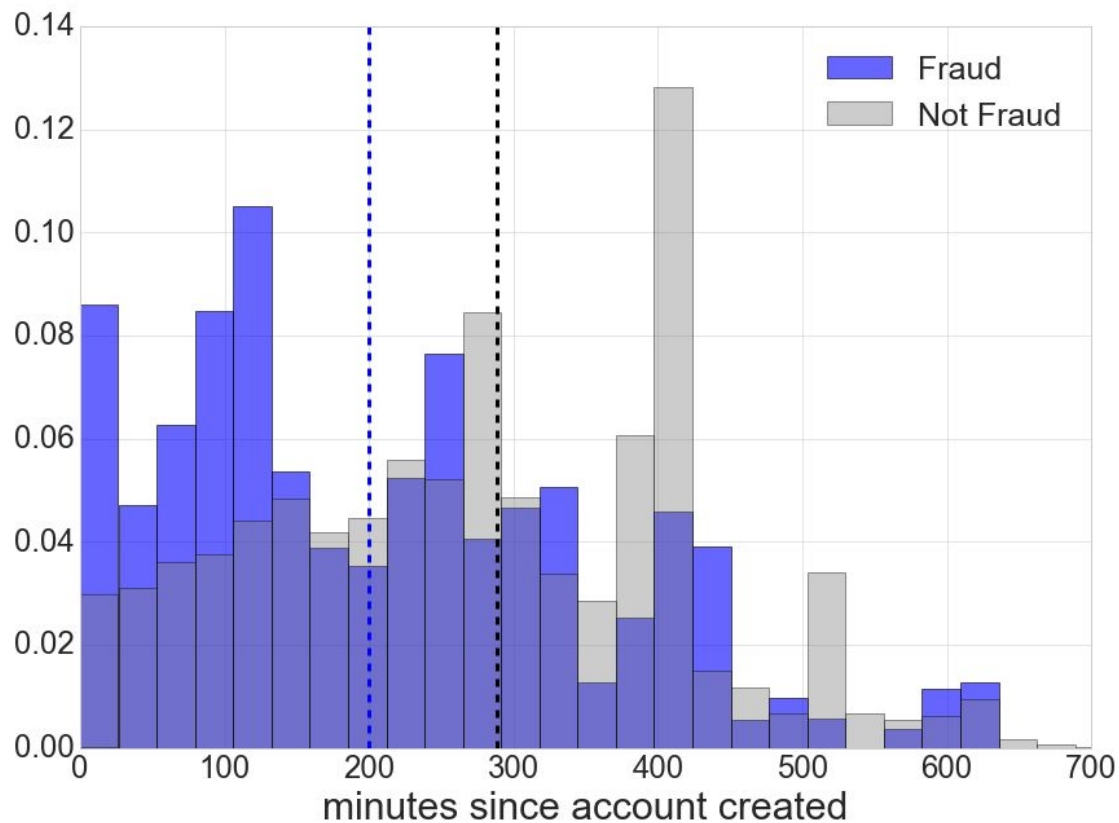
# Features

I **created** 7 new  
features  
and **selected** 8  
existing ones

time since account



# Fraudsters act faster!



**FraudBuster saves GOAT**

**> \$250K annually**

**+ expensive man hours**





FraudBuster saves **GOAT**

> \$250K annually

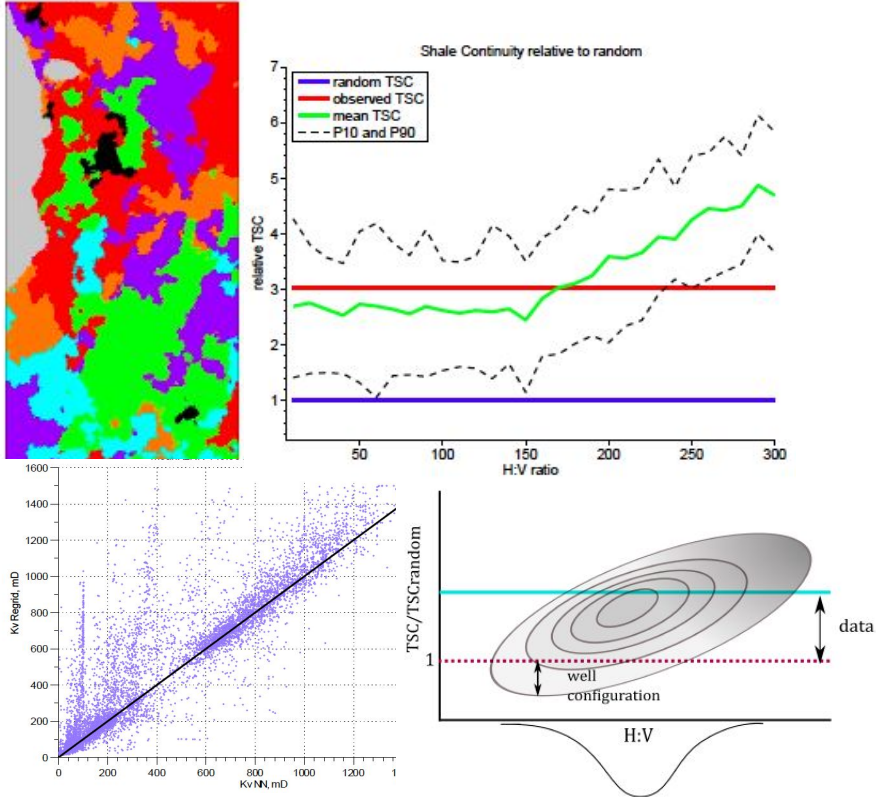
+ expensive man hours

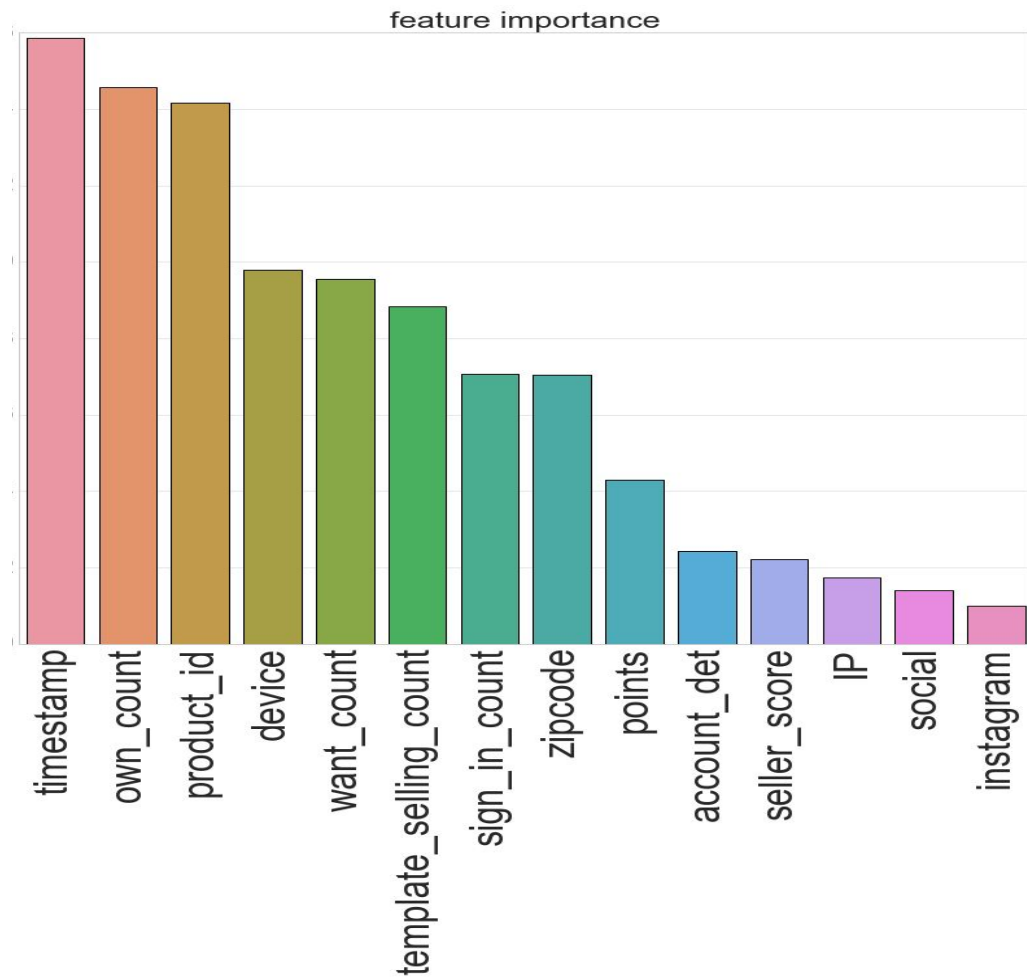
FraudBuster is **robust** and **adaptable** to integrating new features if needed



# *Saina Lajevardi*

## *Geostatistics*





	predicted fraud	predicted non-fraud
actual fraud	867	128
actual non-fraud	167	26160

probability threshold>71%

recall : 87%

precision: 84%

	predicted fraud	predicted non-fraud
actual fraud	867	101
actual non-fraud	417	25910

probability threshold>80%

recall : 90%

precision: 68%