STOCK PREDICTIONS:
AS A CLASSIFICATION PROBLEM

A deep dive into a trading
system simply known as:

'The Strat'

By: Jason Palumbo

GOAL

Build a classification model that can correctly predict if a stock will hit a predetermined target price based on a series of proprietary engineered features using a trading system known simply as The Strat
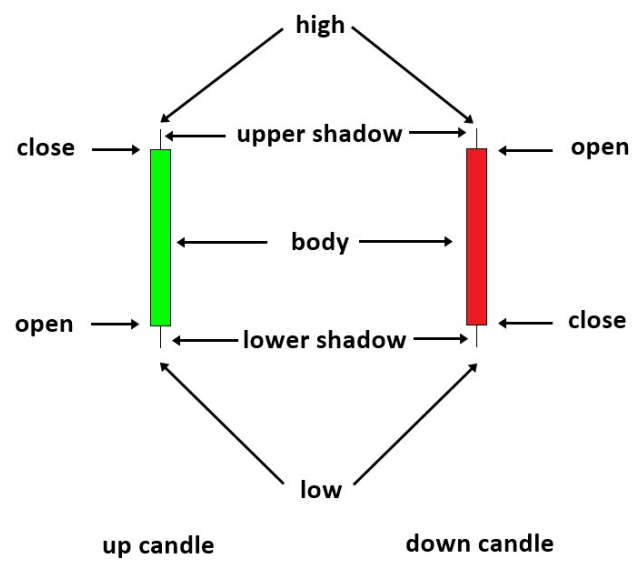
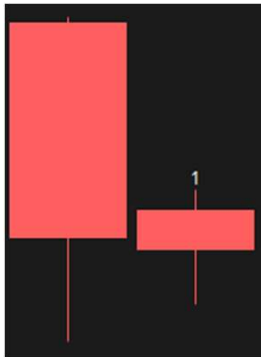# BACKGROUND

'The Strat'

twitter 🐦 @RobInTheBlack
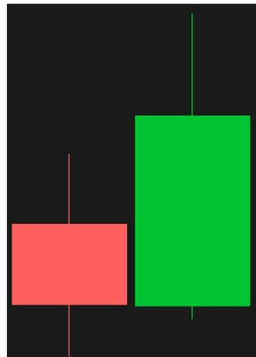
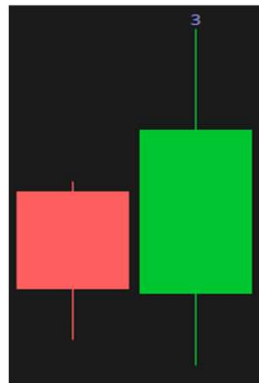▶ YouTube /SmithsInTheBlack

ANATOMY OF A CANDLESTICK

THE SCENARIOS

SCENARIO 1
"INSIDE BAR"

SCENARIO 2

SCENARIO 3
"OUTSIDE BAR"

BROADENING FORMATION

PIVOT MACHINE GUN

AKA "PMG"

PIPELINE

1 TD Ameritrade

2 pandas
16 CUSTOM FUNCTIONS
8 COLUMNS
39 FEATURES

3 SQL
83k rows x 40 columns

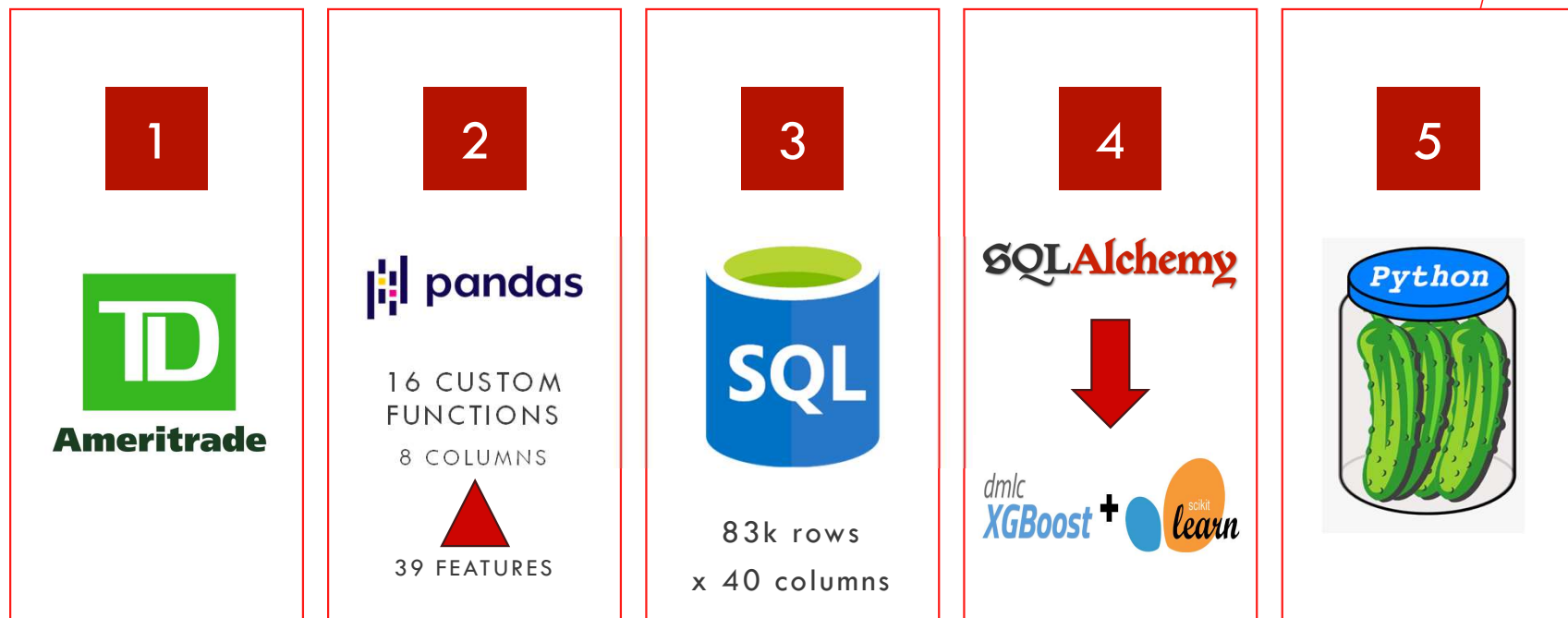**4** SQLAlchemy → dmlc XGBoost + scikit learn

5 Python (pickle jar)
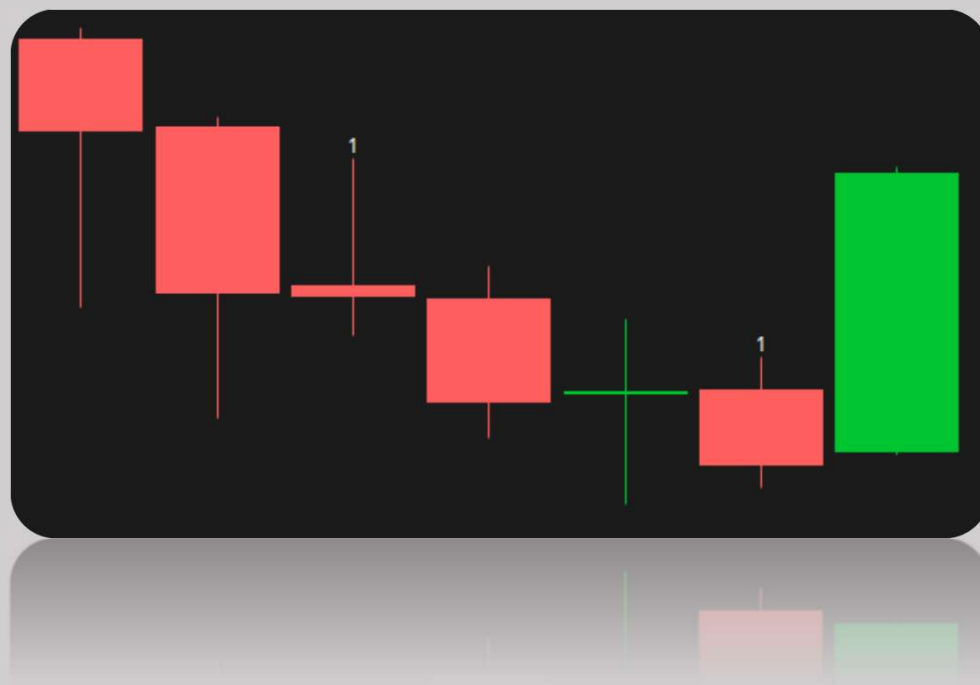
ONE SQL DATABASE ROW = AN INSTANCE OF SUCCESS OR FAILURE

MODELS TRAINED

XG BOOST
Accuracy: .751 | ROC AUC: .727

RANDOM FOREST
Accuracy: .742 | ROC AUC: .732

SUPPORT VECTOR MACHINE
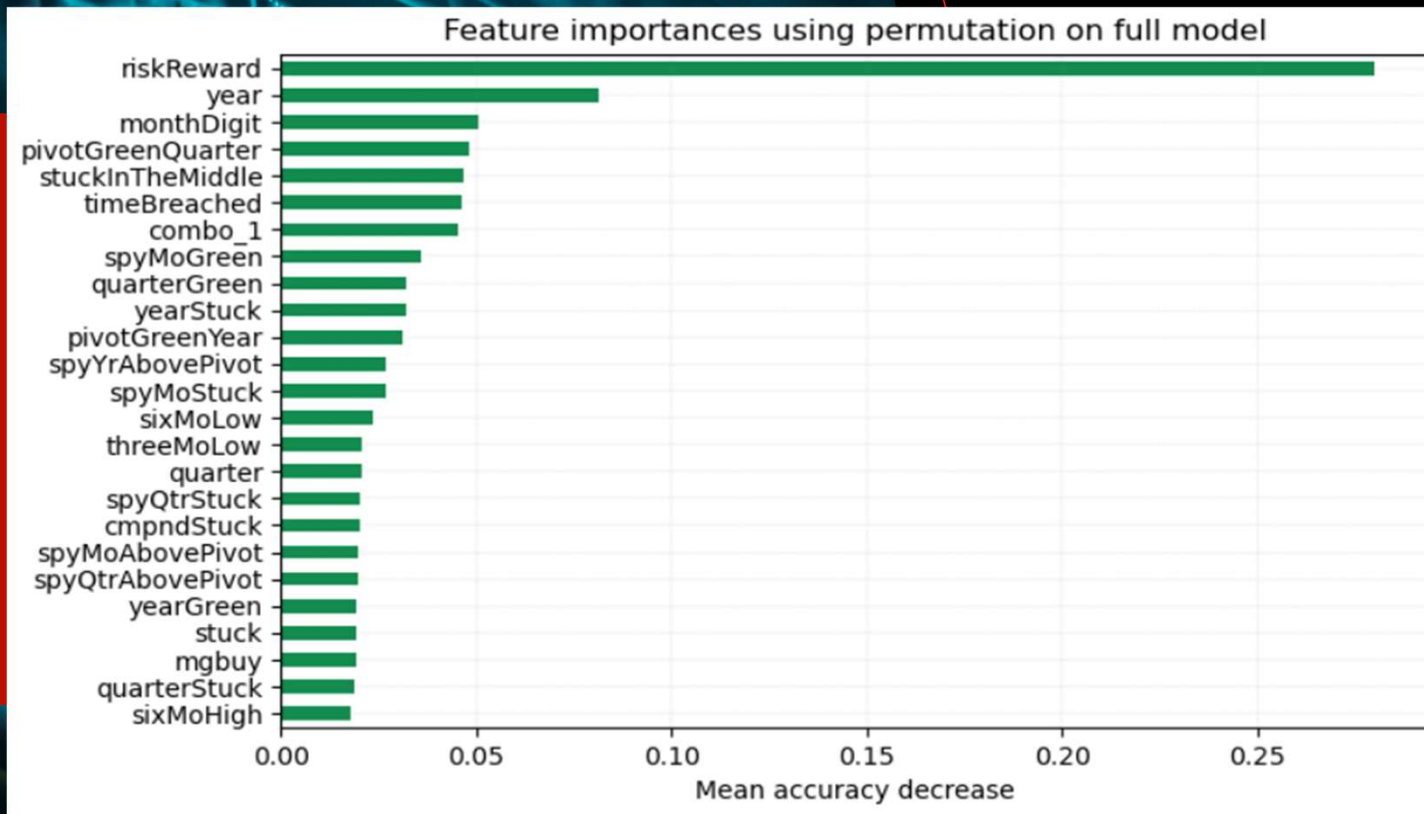Accuracy: .738

LOGISTIC REGRESSION
Accuracy: .732

GAUSSIAN NAÏVE BAYES
Accuracy: .629

FEATURE IMPORTANCE

Feature importances using permutation on full model

RESULTS

	TICKER	COMBO	PREDICTION	% CAPTURED	HIT TARGET	MONEY MADE
1	TGLS	1	.996	5.1%	1	$255
2	HLIT	1	.996	6.35%	1	$317.5
3	OCGN	1	.996	6.9%	1	$345
4	TDUP	1	.994	7%	0	0
5	RUN	1	.994	12.7%	1	$635

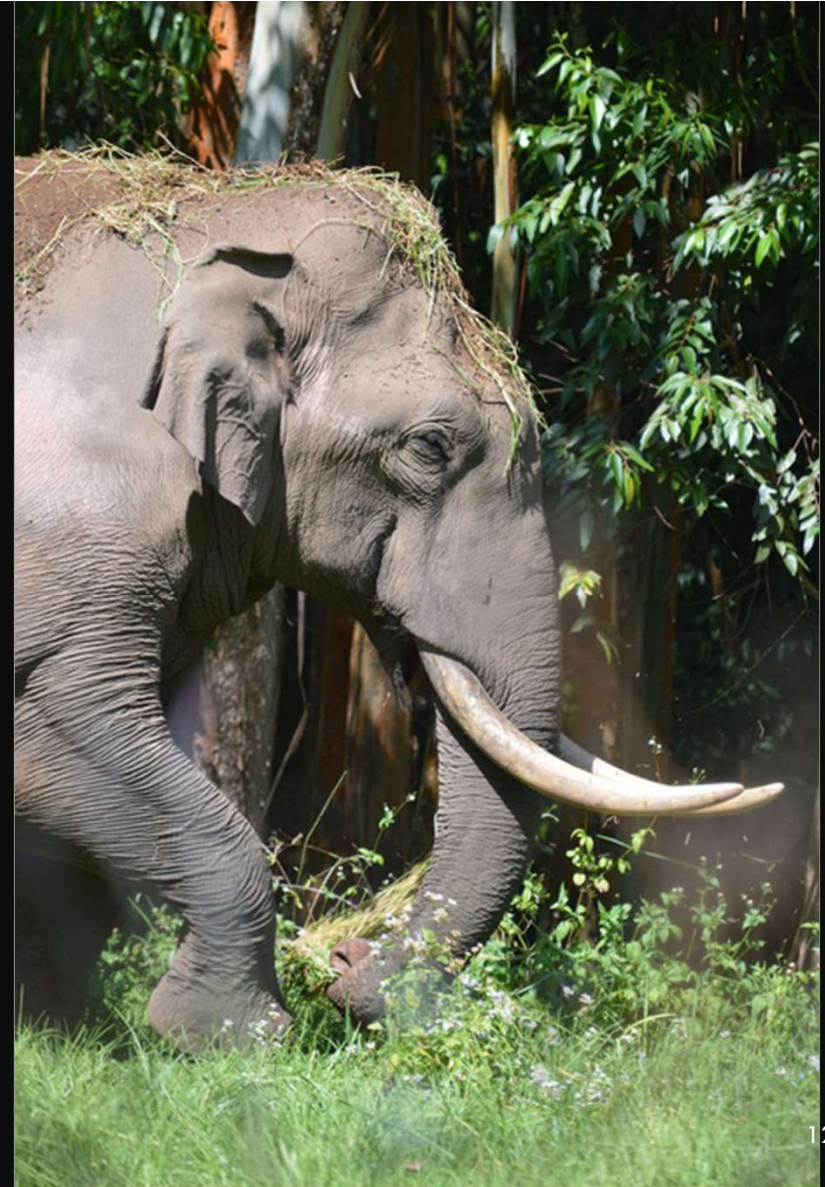THIS MODEL PRODUCED A .80 ACCURACY ON THE NEW UNSEN DATA!

$RUN

- INSIDE SETUP
- ONE BAR REV STRAT
- GREEN ON QUARTER

CONCLUSION
& IMPACT

- MORE WORK TO BE DONE

- FEATURE: RISK/REWARD

  - SEEMS COUNTERINTUITIVE
  - COMFORTABLE SELLERS BECOME PANICKED BUYERS

- GROUDWORK HAS BEEN SET

- SEEMS VIABLE IN THE WILD

FUTURE WORK

- BETTER FEATURE ENGINEERING

- PARALLEL COMPUTING

- RISK CONTROL

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