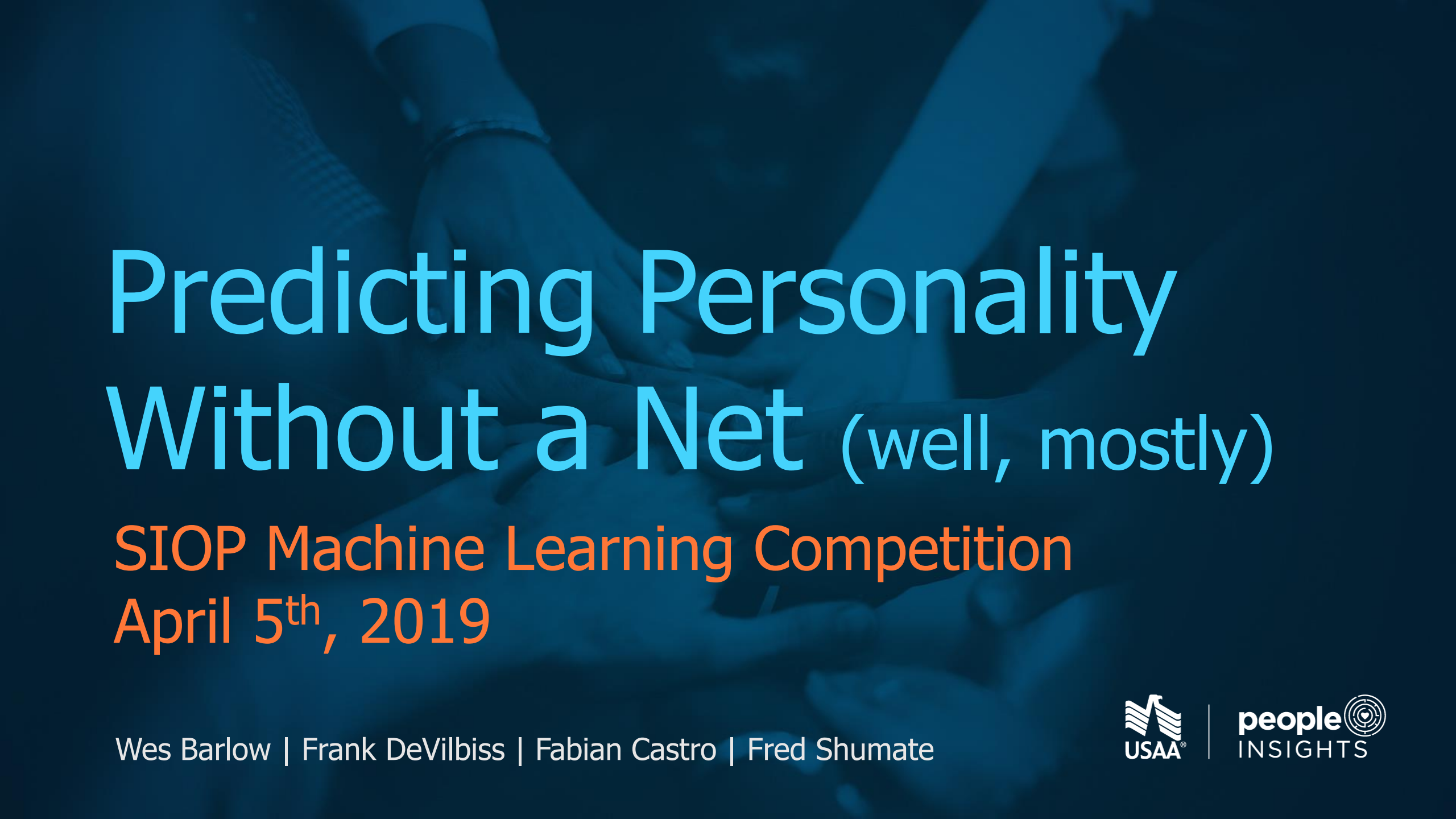


Predicting Personality Without a Net (well, mostly)

SIOP Machine Learning Competition
April 5th, 2019

Wes Barlow | Frank DeVilbiss | Fabian Castro | Fred Shumate

USAA® | people INSIGHTS

OUR MISSION

The mission of the association is to facilitate the financial security of its members, associates and their families through provision of a full range of highly competitive financial products and services; in so doing, USAA seeks to be the provider of choice for the military community.

OUR STANDARD

Keep our membership and mission first

Live our core values:

Service, Loyalty, Honesty, Integrity

Be compliant and manage risk

Build trust and help each other succeed

Embrace diversity and be purposefully inclusive

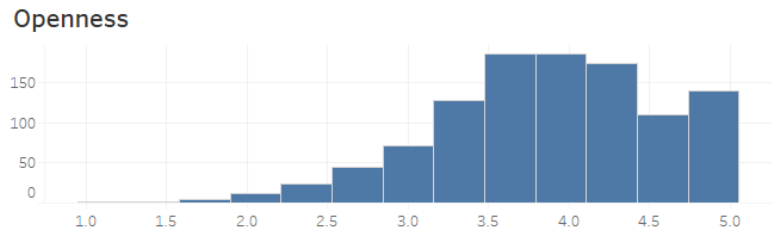
Innovate and build for the future

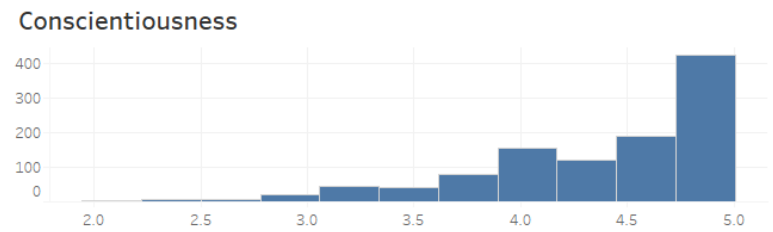
Knowledge Gained

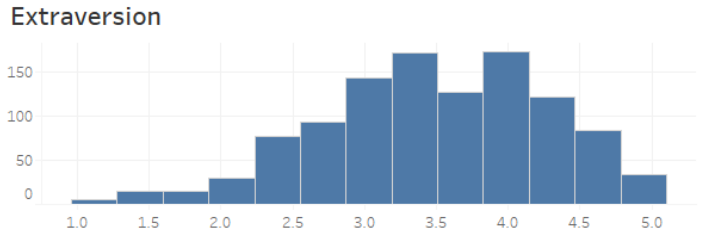
Design, Performance and Application

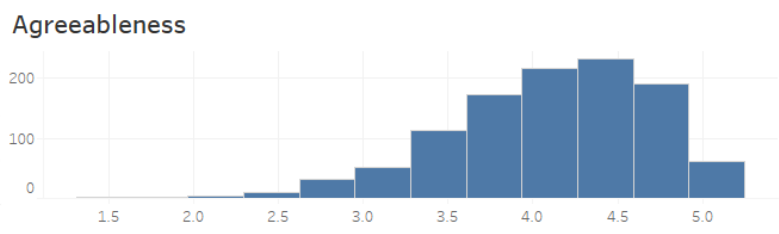
THE DATA

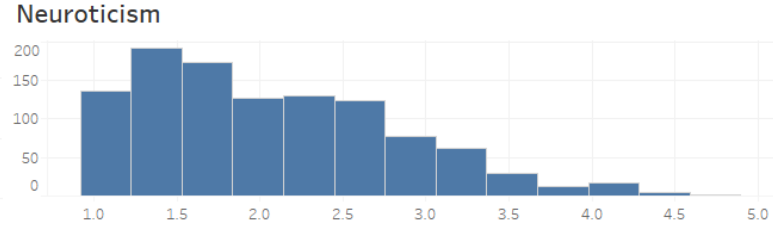
Distributions and Correlations

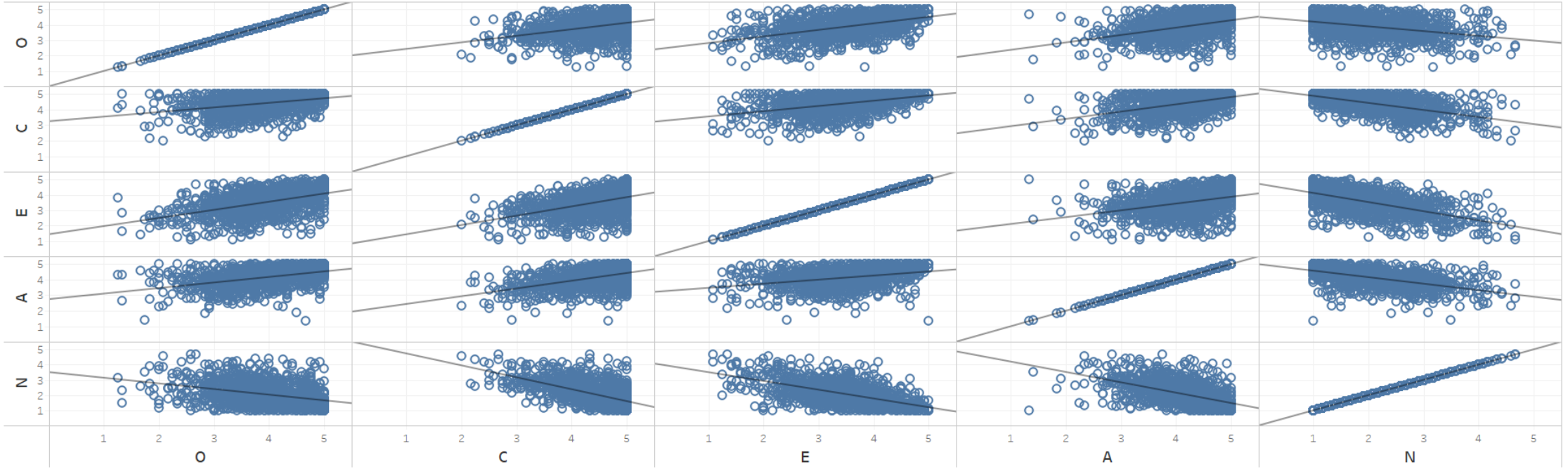




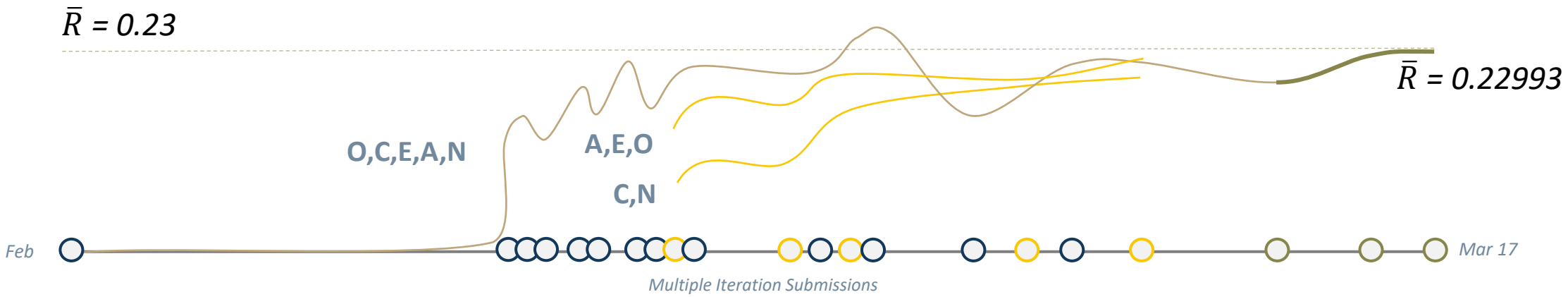


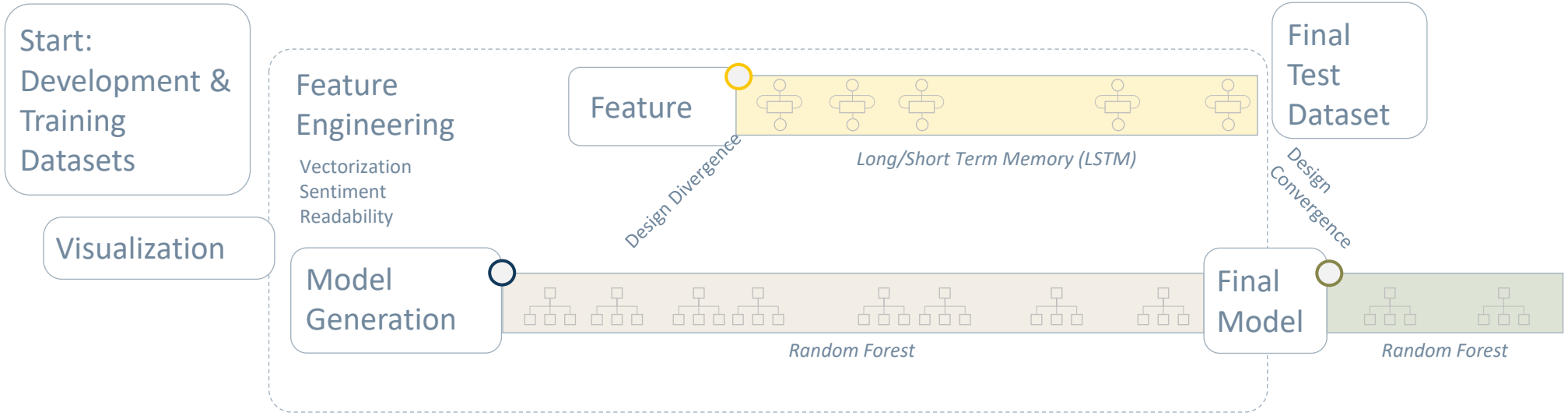






THE JOURNEY


$\bar{R}$ = 0.23
$\bar{R}$ = 0.22993
O,C,E,A,N
A,E,O
C,N
Feb
Mar 17
Multiple Iteration Submissions


Start: Development & Training Datasets
Visualization
Feature Engineering
Vectorization
Sentiment
Readability
Feature
Long/Short Term Memory (LSTM)
Design Divergence
Design Convergence
Final Test Dataset
Model Generation
Random Forest
Final Model
Random Forest

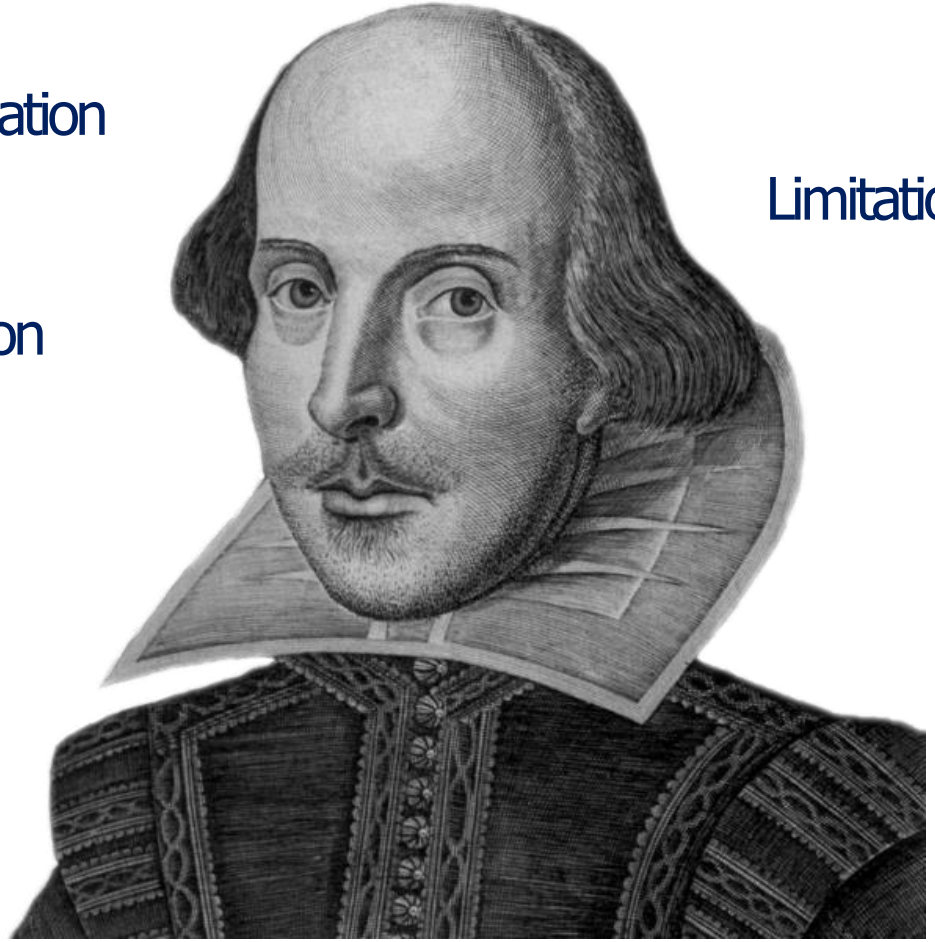
To stem or not to stem?*

Stemming/Lemmatization

Vectorization

Sentiment

Readability



Limitations of Dataset

Resource Constraints

Perils of Overfitting

How do we balance the benefits with the requirements of risk management?

Transparency

Legal

Discrimination/Bias

Monitoring/Degradation

Data Integrity

Privacy

Questions

PRESENTATION DESIGN: ALLY MARGAIN