

TrainAware: Work Smarter, Not Harder

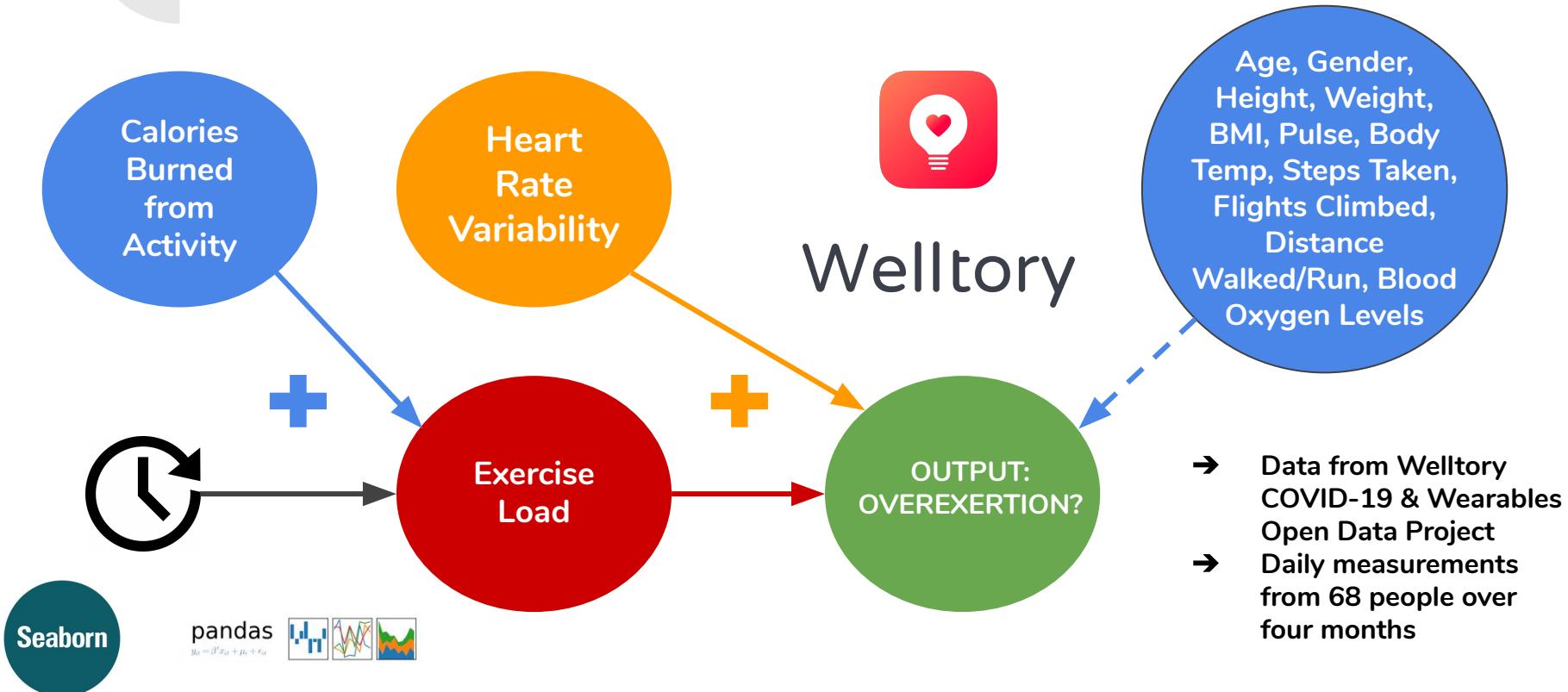
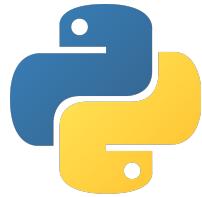
David K. Kirui
Product Demo

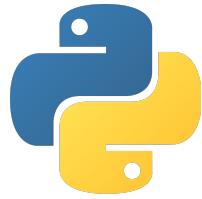


Fitness industry valued at \$80B annually



Step 1: Engineered Time-Variant Measures of Exercise Load and Overexertion





Step 2: Process, Train & Test, Deploy...

Preprocessing

- One-Hot Encoding
- Feature Standardization

Pclass	Sex	Age
3	male	22.0
1	female	38.0



Pclass	Age	Sex_female	Sex_male
3	22.0	0	1
1	38.0	1	0



eXtreme Gradient Boosting (XGBoost)

- Imbalanced classes
- Hyperparameter Tuning/CV
- Recall/Precision



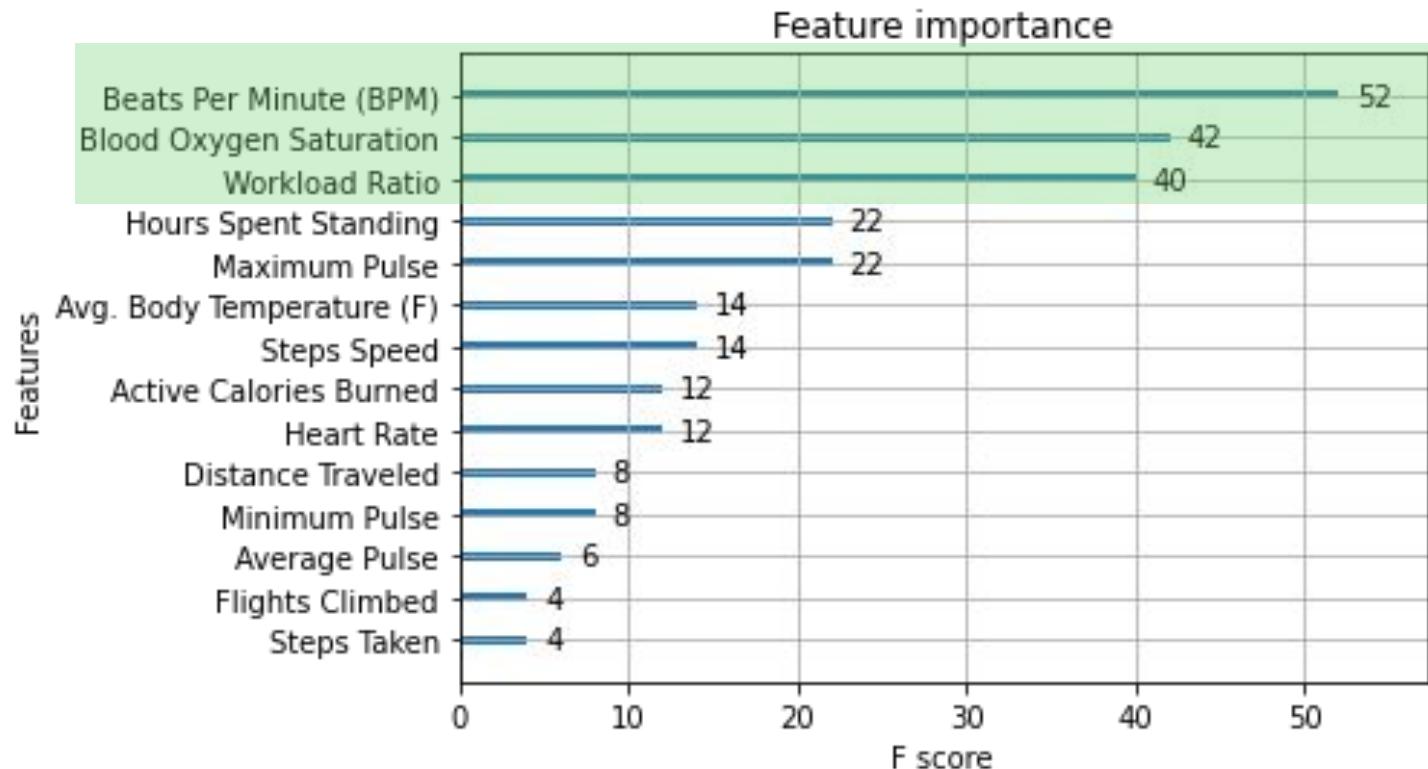
dmrc
XGBoost

Deployment

- Convert Standardized Features
- Predicted Probabilities



Heart Rate, Training Load, Blood Oxygen Levels Matter!



92%

RECALL



- 9+ times out of 10, algorithm correctly predicts that it's safe to continue working out!
- Train with confidence!

25%

IMPROVEMENT OVER
BASELINE



- Improvement over a model without measures of heart rate change or exercise load

MORE

USERS REACHING THEIR
FITNESS GOALS!



- Workout safely without fear of injury!



TrainAware Demo

TrainAware: Work Smarter, Not Harder

This application is designed to help you identify when you might be overtraining, so that you can reduce your risk of work-out related injury

Input the information below from your wearable fitness tracker. Defaults are population averages.

In the last week, how many calories have you burned as a result of activity? (kcal)



What was your acute-to-chronic workload ratio for this week? (calculate from number of calories burned or input from fitness tracker)



What was your average body temperature yesterday (Fahrenheit)?



What was your average heart rate yesterday? (bpm)



What is your height (in inches)?



What is your weight (in pounds)?



What is your body mass index (bmi)?

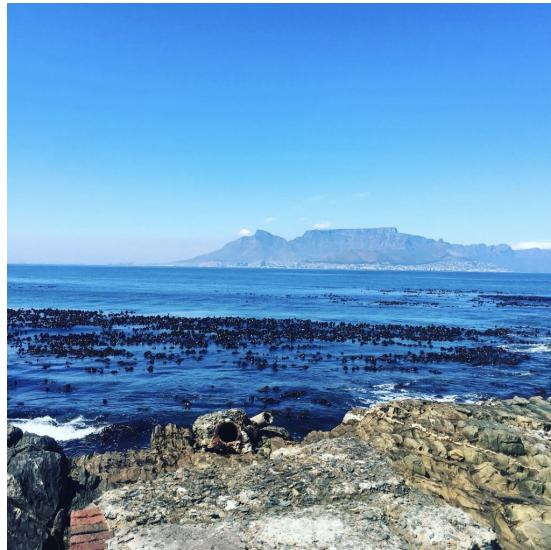
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