

## Hands-on: Logistic Regression For Data Science with Python

#### Section 1: Welcome to the Course

- Why Learn Logistic Regression?
- Logistic Regression and Data Literacy
- Course Expectations
- The Data

### **Section 2 – Introducing Logistic Regression**

- What is a Model?
- Model Equations 101
- The Logistic Curve

#### Section 3 - Basic Probability

- What's the Probability?
- It's All About the Probability

## Section 4 – Introducing Logistic Regression Revisited

- Putting it All Together
- What's the Baseline?
- Goodness of Fit
- Hands-on Lab #1

#### Module 5 – Simple Logistic Regression

- Questions Before Analysis
- Beating the Baseline
- Nothing is Certain
- Building Logistic Regression Models
- Hands-on Lab #2

#### Module 6 – Multiple Logistic Regression

- When Simple Won't Do
- The Rewards of Complexity
- Interaction Modeling
- Handling Categorical Data
- Hands-on Lab #3

#### Module 7 – Is Your Model Awesome?

- Model Deviance
- Akaike Information Criterion (AIC)
- Likelihood Ratio
- Prediction Evaluation
- Accuracy
- Sensitivity
- Specificity
- Adjusting Thresholds
- Hands-on Lab #4

# Module 8 – Interpreting Your Model

- What Are the Odds?
- Odds Ratios
- The Odds Ratio Shortcut
- Model Interpretation
- Hands-on Lab #5

#### Module 9 – Gotchas

- Insufficient Observations
- Incomplete Information
- Complete Separation
- Correlation
- Multicollinearity

# Module 10 - Additional Topics

- Significant Features
- Formula Syntax
- Linearity of the Logit

# Module 11 – Course Wrap-Up

© David Langer Page 2