



## DATA SCIENCE COURSE CONTENT

### **INTRO TO DATA SCIENCE**

- EVOLUTION OF DATA SCIENCE
- WHAT IS ML/AI
- WHAT IS DATA SCIENCE

### **PYTHON FOR DATA SCIENCE**

- INTRODUCTION TO PYTHON
- PYTHON WITH PANDAS/MATPLOTLIB/NUMPY/GRAPHLABCREATE

### **MODEL & ESTIMATES**

- INTERPRETING DATA VISUALLY
- MEAN, MEDIAN, MODE, STANDARD DEVIATION
- DISCRETE PROBABILITY DISTRIBUTION
- BINOMIAL DISTRIBUTION
- PROBABILITY DENSITY FUNCTION (PDF)
- CUMULATIVE DENSITY FUNCTION (CDF)
- NORMAL DISTRIBUTION
- POISSON DISTRIBUTION
- CHI SQUARE DISTRIBUTION

### **CONDITIONAL PROBABILITY**

- COVARIANCE & CORRELATION
- CONFUSION MATRIX
- CONDITIONAL PROBABILITY
- BAYES THEOREM
- DECISION TREES

### **MACHINE LEARNING**

- LINEAR REGRESSION
- LOGISTIC REGRESSION
- CLASSIFICATION
- SVMs
- ENSEMBLE METHODS
- CLUSTERING
- NEURAL NETWORKS
- DEEP LEARNING

***\*\* Each of the topics will be explained with case studies \*\****