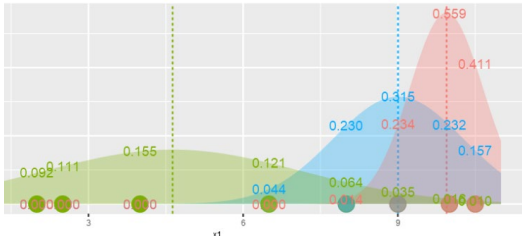
Haas School of Business
University of California, Berkeley

UGBA 147
ADVANCED BUSINESS ANALYTICS

SPRING 2022
TUE/THUR 9:30AM -11:00AM
3 UNITS



Course Overview

Successful business analysts, managers, and executives are increasingly required to make data-driven decisions to run their businesses, rather than rely on experience and intuition alone. This course teaches you the latest data analytic methods and decision methods now used by leading-edge business practitioners, going deep to understand their technical inner workings and going broad to realize their practical business applications.

- Business decision modeling, exploratory data analysis, cluster modeling, predictive modeling
- Data analytic methods: machine learning and other approaches
- Introduction to R and Jupyter software for data analysis
- Real-world/real-data business practicum across a variety of industries

Delivery Mode Live in-person

Recommended Prerequisites

UGBA 104 Intro Business Analytics -or- DATA C100 Data Science

Instructor Biography

Dr. Richard Huntsinger is a professor, Silicon Valley entrepreneur, Fortune 500 operations executive, and management consultant with broad international experience leading programs in operational excellence, data analytics, internet-based and agent-based customer service, process automation, and enterprise software development at organizations like Hewlett-Packard, AT&T, Symantec, Hitachi, Curtiss-Wright, Bank of America, and US Department of Energy. He has served on the management teams of several venture-backed high-tech start-ups from build-out to IPO and acquisition. He is a strategy and technology advisor to several companies and a frequent guest speaker in industry, academia, and government.

Course Outline

Data & Decisions
methodology, decision models, sensitivity analysis

Data Exploration & Transformation
selection, amalgamation, cross-tabulation,
2-D & 3-D data visualization,
kernel density estimation, balancing, imputation,
aligning, principal component analysis

Cluster Analysis
cluster evaluation, hierarchical agglomeration,
k-means, Gaussian mixtures

Classification
classifier cross-validation, k-nearest neighbors,
logistic regression, decision tree, naïve Bayes,
support vector machine, neural network,
multinomial classification, classifier tuning

Regression
regressor cross-validation, linear regression,
more regression, regressor tuning

Ensemble Assembly
bagging, boosting, stacking, random forest

Special Data Types
text data, time series data, social network data

Data Analysis Software Tools
Jupyter, R, ggplot2, rgl

Labs & Project
stock market, banking, energy, real estate, aviation,
hospitality, retail, call center outsourcing,
health care, political fundraising, transportation,
telecom, workplace diversity