Data Science and Big Data Analytics

Introduction to Big Data Analytics

- Big Data Overview
- State of the Practice in Analytics
- The Data Scientist
- Big Data Analytics in Industry Verticals

Data Analytics Lifecycle

- Discovery
- Data Preparation
- Model Planning
- Model Building
- Communicating Results
- Operationalizing

Review of Basic Data Analytic Methods Using R

- Using R to Look at Data – Introduction to R
- Analyzing and Exploring the Data
- Statistics for Model Building and Evaluation

Advanced Analytics – Theory And Methods

- K Means Clustering
- Association Rules
- Linear Regression
- Logistic Regression
- Naïve Bayesian Classifier
- Decision Trees
- Time Series Analysis
- Text Analysis

Advanced Analytics - Technologies and Tools

- Analytics for Unstructured Data - MapReduce and Hadoop
- The Hadoop Ecosystem
- In-database Analytics – SQL Essentials
- Advanced SQL and MADlib for In-database Analytics

The Endgame, or Putting it All Together

- Operationalizing an Analytics Project
- Creating the Final Deliverables
- Data Visualization Techniques
- Final Lab Exercise on Big Data Analytics