SESSION I – CORE CONCEPTS

- Orientation to AI, data science and organizational analytics
- Trends within the analytically competitive organization
- The advent of AI and machine learning
  - The Arena: From business unit-based to IT department-based
  - The Professionals: From analyst to data scientist
  - The Analyses: From descriptive analyses / business intelligence to data mining / machine learning / predictive modeling / artificial intelligence
- What is predictive analytics' role in Big Data?
  - Big data needs advanced analytics …but does analytics need big data?
  - You will never have a perfect model
  - Market perceptions of big data
- ROI of big data and associated analytics
  - Retail use case
  - Guerrilla marketing use case
  - Medical or government use case
- The future of big data and AI

SESSION II – HOW TO THINK LIKE A DATA SCIENTIST

- Stats 101 in ten minutes
- A / B testing and experiments
- BI vs AI
- IT's role in predictive analytics
- Statistics and machine learning: complementary or competitive?
- Primary project types

  - Predicting a value given specific conditions
  - Identifying a category given specific conditions
  - Predicting the next step in a sequence
  - Identifying groups

- Common analytic and machine learning algorithms

  - Regression
  - Decision Trees
  - Neural Networks
  - Genetic Algorithms
  - Ensemble Modeling

- Popular tools to manage large-scale analytics complexity

  - R and Python
  - Hadoop, MapReduce and Spark
  - Data Mining "workbenches"

- Performing a data reconnaissance
- Building the analytic sandbox
- Preparing train / test / validation data
- Defining data sufficiency and scope

SESSION III – THE CAO's ROADMAP

- The Modeling Practice Framework™
- The elements of an organizational analytics assessment
- Project Definition: the blueprint for prescriptive analytics
- The critical combination: predictive insights & strategy
- Establishing a supportive culture for goal-driven AI
- Defining performance metrics to evaluate the decision process
- What is the behavior that impacts performance?
- Do resources support stated objectives?
- Leverage what you already have
- Developing and approving the Modeling Plan
- Selecting the most strategic option
- Planning for deployment
  - What will the operational environment be?
  - Who or what is the end consumer?
  - How do results need to be purposed or presented?
- Measuring finalist models against established benchmarks
- Preparing a final Rollout Plan
- Monitoring model performance for residual benefit

SESSION IV – BUILDING THE GOAL-CENTERED DATA-DRIVEN OPERATION

- Attracting and hiring the right analytic talent
- The roles and functions of the fully-formed analytic project team
- Specialization in analytic project teams
- AI opportunity identification, qualification and prioritization
- Organizational resistance and developing a culture for change
- Project failure is not the worst outcome
- Staging the organizational mind shift to data-driven decisioning
- Motivating adoption by domain experts, end users and leadership
- Recording ongoing organizational changes
- Monitoring and advancing organizational analytic performance
- "Democratizing" AI: Advantages and risks of "self-service"
  - Tableau
  - Watson Analytics
  - Establishing performance dashboards
- Standing up an agile analytic modeling factory
- Knowledge retention and skill reinforcement

SESSION V – GROUP DISCUSSION

- Moderated by the instructor, an active senior consultant
- Roundtable format discussion of real-world implementation scenarios
  - The complexities of organizational environments
  - How to deal with messy and incomplete internal and external resources
  - The challenges and opportunities of organizational cultures and mindset shift
  - Operationalizing decision models
  - Preparing for adoption, monitoring and reporting residual benefit
  - Open forum – ask the instructor anything

RESOURCES

- Analytic Glossary
- Recommended Books
- LinkedIn Groups
- Data Repositories
- Predictive Analytics Across Social Media
- Webinars, Courses, Conferences