AIOPS Outline

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-- DAY 1 --

Data Science

- An Overview
- Machine Learning
- Asking the Right Questions
- Artificial Intelligence: ML + Knowledge
- The Data Science Pipeline
- The Data Science Life Cycle
- Data Science and AI OPS

Machine Learning

- ML for Analytics
- ML for Prediction
- ML for Regression
- Scaling ML

AI OPS

- The Need for AIOPS
- The IT Operations Management Cycle

-- DAY 2 --

The Five Dimensions of AIOPS

- Data Set Selection
- Pattern Discovery
- Inference
- Communications
- Automation

Infrastructure and Topologies

- Cloud, On-Premise, and Hybrid Cloud
- Micro Services
- Scaling
- Cost Projections
- The Failure of Traditional ITOM Technologies
- Industry Examples

Model Explainability

- Why are we getting these predictions?
- Model reductions for explainability

- Other trending techniques and solutions

-- DAY 3 --

Working with the Components

- AWS (DEMO ONLY):
  - Data (AWS S3)
  - Compute (EC2, deploying an API, loading data from S3)
  - AWS ML (an ML API endpoint)
- Working Locally
  - Data Wrangler
  - Saving Intermediate Datasets
  - Flask API's
  - Tableau for a Front End

Practical Exercise

- Build a simple analytics app
- Connect to data via API
- Build a Data Science Pipeline as a middle layer
- Connect to UI/front end (Tableau, for exercise)

Emerging Trends

- Emerging Technologies
  - Micro Services
  - Auto ML
  - NLP Tends and Techniques
  - Graph Databases and Network Graph Analysis