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Azure Advanced Analytics

Day 1: Lecture

- **Review of data analysis methodologies**
  - Business analysis
  - Descriptive/statistical analysis
  - Machine Learning
  - Deep Learning
- **Models selection for specific applications**
  - Regression – linear or logistic?
  - Convolutional Neural Networks or Recursive one?
  - Decision Trees or Random Forests?
- **Azure Data Stack overview - applications and service characteristics**
  - Relational structures: Azure SQL, Azure Data Warehouse, Analysis Services
  - Big Data: HDInsight, CosmosDB, Azure Storage, Azure Data Lake (Store, Analytics)
  - Data flow: Azure Data Factory (V1, V2)
  - Data analysis: Azure Stream Analytics, Azure Machine Learning (Studio, Workbench), Machine Learning Server
  - Artificial intelligence: Cognitive Services, Cognitive toolkit (CNTK), Bot Framework
  - Data Visualization: Power BI

Day 2: Workshop

- **Building a solution in the form of PoC**
- **Putting into practice the tools discussed during the first day**
- **Choosing a specific scenario and building it during the workshop**
  - Sales prediction and grouping customers in terms of their preferences
  - What-if analysis and impact research of selected variables on customers
  - Building a recommendation system
  - Predictive Maintenance and real-time data analysis
  - Deep learning in the context of image recognition