MACHINE LEARNING OVERVIEW

Machine Learning is a computing technique that has its origins in artificial intelligence (AI) and statistics. Machine Learning solutions include:

- **Classification** - Predicting a Boolean true/false value for an entity with a given set of features.
- **Regression** - Predicting a real numeric value for an entity with a given set of features.
- **Clustering** - Grouping entities with similar features.
- **Recommendation** - Recommending an item to a user based on past behaviour or preferences of similar users.

This chapter describes these kinds of Machine Learning solution, and discusses the difference between *supervised* and *unsupervised* learning.

Note: You don't need to fully understand the underlying mathematical principles on which machine learning is based to use tools like Azure Machine Learning. However, becoming familiar with the basic foundations for machine learning will help you design and optimize better predictive models. This chapter, and the chapters that follow, attempt to describe the mathematics that underpins the technologies used later in the course in as simple a manner as possible.