Machine Learning can be defined as

1. “the field of study that gives computers the ability to learn without being explicitly programmed.” -Arthur Samuel 1959
2. “A computer program is said to learn from experience (E) with respect to some class of tasks (T) and performance measure (P), if its performance at tasks in T, as measured by P, improves with experience E.” -Tom Mitchell, 1998

Types of Learning

Supervised Learning

* “right answers” are given
* Regression: predict continuous valued output (price)
* Classification: discrete valued output (0 or 1 or 2, etc.)

Unsupervised Learning

* Clustering
  + organize computing clusters
  + social network analysis
  + market segmentation
  + astronomical data analysis
* Non-Clustering
  + Cocktail party problem algorithm
    - [W,s,v]=svd((repmat(sum(x.\*x,1),size(x,1),1).\*x)\*x’);