**Types of Machine Learning System**

**Supervised Learning:**

* k-Nearest Neighbors
* Linear Regression
* Logistic Regression
* Support Vector Machines(SVMs)
* Decision Trees and Random Forests
* Neural Networks

Keywords: Instance, Labels, Classification, Target, Features, Predictors

**Unsupervised Learning:**

* **Clustering**
  + K-Means
  + Hierarchical Cluster Analysis (HCA)
  + Expectation Maximization
* **Visualization and Dimensionality Reduction**
  + Principal Component Analysis (PCA)
  + Kernel PCA
  + Locally-Linear Embedding (LLE)
  + T-distributed Stochastic Neighbor Embedding
* **Association Rule Learning**
  + Apriori
  + Eclat

Keywords: Clustering Algorithm, Hierarchical Clustering Algorithm, Visualization Algorithms, Dimensionality Reduction Algorithm (feature extraction), Anomaly Detection Algorithm, Association Rule Learning

**Semisupervised Learning:**

* **Unsupervised+Supervised algorithms**
  + Deep Belief Networks (DBNs)🡺based on Restricted Boltzmann Machines (RBMs)🡺 (unsupervised component)🡺(uses supervised learning Techniques)

Keywords: Partially labeled

**Reinforcement Learning :**

* DeepMind’s AlphaGo Program

Keywords : Agent, Rewards, Penalties, Policy

**Batch and Online Learning:**

* **Batch Learning:**
  + Disadvantages
    - Incapable of learning increamentally
    - Offline Learning
    - Time, Money, Memory Consuming
* **Online Learning (**Solution of Batch Learning**)**🡺**(**Offline Work, Confusing Name**)**:
  + Prediction Of Stock Prices
  + Out-Of-Core Learning

Keywords: Mini-batches, Learning Rate, Bad Data

**Instance-Based Versus Model-Based Learning : (**Generalization**)**

* **Instance-Based Learning:**
  + The system learns the examples by heart, then generalizes to new cases using a similarity measure
* **Model-Based Learning:**
  + Model to make predictions

Road is long to go Developers. This is Just the beginning of Machine learning types. Details of each and every kind will be given to you in easy language with python codes. Keep visiting!

**Drop mail at “thecreator.3999@gmail.com” for any guidance or any suggestion related to this Learning Sheet.**

