Anomaly Detection

In this exercise, you will implement the anomaly detection algorithm and apply it to detect failing servers on a network.

Outline

- 1 - Packages
- 2 - Anomaly detection
  - 2.1 Problem Statement
  - 2.2 Dataset
  - 2.3 Gaussian distribution
    - Exercise 1
    - Exercise 2
  - 2.4 High dimensional dataset

NOTE: *To prevent errors from the autograder, you are not allowed to edit or delete non-graded cells in this lab. Please also refrain from adding any new cells.* ***Once you have passed this assignment*** *and want to experiment with any of the non-graded code, you may follow the instructions at the bottom of this notebook.*

1 - Packages

First, let's run the cell below to import all the packages that you will need during this assignment.

- numpy (www.numpy.org) is the fundamental package for working with matrices in Python.
- matplotlib (http://matplotlib.org) is a famous library to plot graphs in Python.
- `utils.py` contains helper functions for this assignment. You do not need to modify code in this file.

In [1]:
```
import numpy as np
import matplotlib.pyplot as plt
from utils import *

%matplotlib inline
```

2 - Anomaly detection