**Problem Motivation**

Dataset: {x1, x2, x3, …, xm}(assume that the dataset is normal example)

Is xtest anormalous?

Usually, trend to build a model p(x). After that, check

p(x-test) < ε → anormaly

p(x-test) >= ε → OK

Gaussian Distribution

Parameter Estimation

X~N(μ, σ2)

μ = 1/m \* sum(xi)(i = 1 up to m)

σ2  = 1/m \* sum((xi – μ)2)(i = 1 up to m)