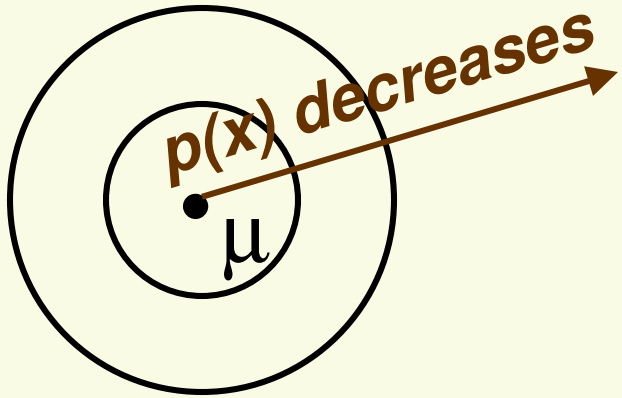
$$(x-\mu)^t \Sigma^{-1} (x-\mu)$$

$(x-\mu)^t (x-\mu)$

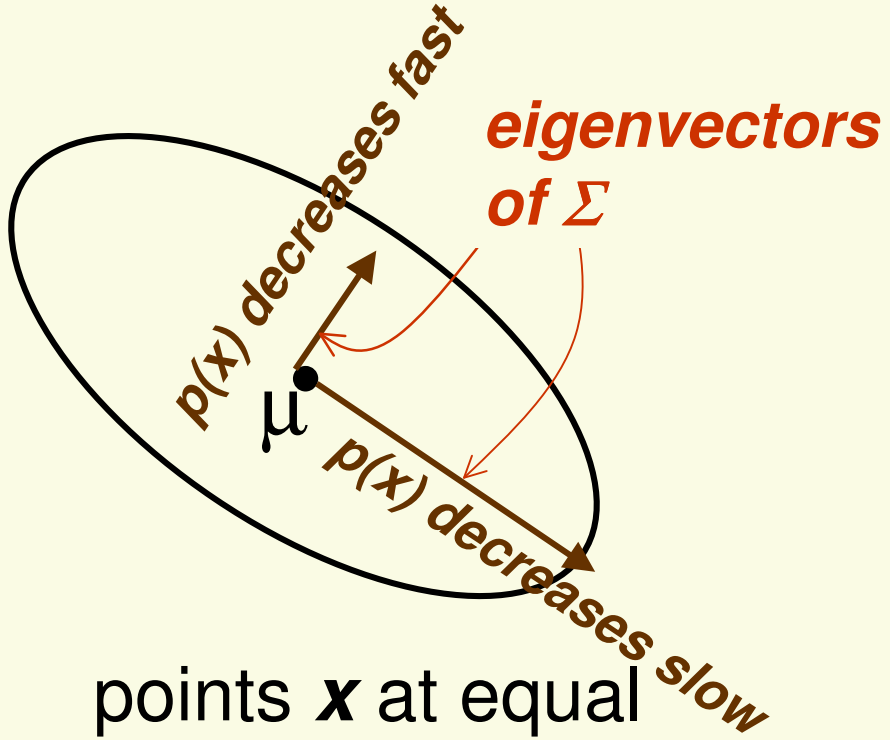
usual (Eucledian) distance between x and μ



points ***x*** at equal Eucledian distance from μ lie on a circle

$(x-\mu)^t \sum^{-1} (x-\mu)$

Mahalanobis distance between x and μ



points ***x*** at equal Mahalanobis distance from μ lie on an ellipse: Σ stretches circles to ellipses