CSC411 Assignment 2

Yue Guo

November 25, 2017

1 Kernels

1.1 Positive semidefinite and quadratic form

Assume K is symmetric, we can decompose K into $U\Lambda U^T$

$$x^T K x = x^T (U\Lambda U^T) x = (x^T U)\Lambda (U^T x)$$
$$= \Sigma_{i=1}^{d} \lambda_i ([x^T U_i])^2 >= 0$$