Max Margin
$$\rightarrow cpt.$$

 $primul Dnul
 $p^{\chi} \qquad d^{\chi}$
 $d^{\chi} \leq p^{\chi}$
 $= \frac{KKT}{}$$





















- So far, we have only considered large-margin classifier with a linear decision boundary
- How to generalize it to become nonlinear?
- Key idea: transform **x**_i to a higher dimensional space to "make life easier"
 - Input space: the space the point **x**_i are located
 - Feature space: the space of $\phi(\mathbf{x}_i)$ after transformation
- Why transform?
 - Linear operation in the feature space is equivalent to non-linear operation in input space
 - Classification can become easier with a proper transformation.

































































