



BRITISH EMBASSY
BELGRADE

$$\sum a_i k(x_i, x_j) a_j \quad \langle a, b \rangle \leq \|a\|^2 \|b\|^2$$

$$= \sum_{i,j} a_i (x_i - x_j)^T C (x_i - x_j) a_j$$

note need C
the definite
I think!

$$\sum_{i,j} a_i x_i^T C x_i a_j = \sum a_i x_i^T C x_j a_j$$

$$+ \sum_{i,j} a_i x_j^T C x_j a_j \geq 0$$

why $x_i \neq 0$ so can divide by $\max_i \|x_i\|$ to ensure all
norm ≤ 1

$$\sum_{i,j} a_i \|x_i\|^2 a_j - 2 \sum a_i a_j$$

$$1 - 2 \sum a_i x_i^T C x_j a_j$$

$$\text{also } \|x_i\| \|x_j\| \leq 1 \\ \text{ie } \|C^{1/2} x_i\| \leq 1$$

since we want
norm? if
not

$$\leq 2 \sum a_i \|x_i\| \|x_j\| a_j \leq 2 \sum a_i \|x_i\|^2 \|x_j\|^2 a_j$$