

## WEEKLY PARTICIPATION 4

Assume that our population follows the model where the log-odds of  $y$  are linear given  $\mathbf{x}$  with bias and coefficients  $\omega_0$  and  $\boldsymbol{\omega}$  as before. Assume also that we expect that the true parameter  $\boldsymbol{\omega}$  is likely to be sparse. The targets are in  $\pm 1$ .

State:

- the appropriate loss function  $\ell(u, v)$  for fitting the data,
- the appropriate regularizer  $\Omega(\boldsymbol{\omega})$ ,
- and the objective function for learning the parameters  $\omega_0$  and  $\boldsymbol{\omega}$  using RERM, given that we have  $n$  training examples.