

## The game

- ▶ Prediction algorithm  $A$  has access to  $N$  experts.
- ▶ The following is repeated for  $t = 1, \dots, T$ 
  - ▶ Experts generate predictive distributions:  $\mathbf{p}_1^t, \dots, \mathbf{p}_N^t$
  - ▶ Algorithm generates its own prediction  $\mathbf{p}_A^t$
  - ▶  $\mathbf{c}^t$  is revealed.
- ▶ **Goal:** minimize regret:

$$-\sum_{t=1}^T \log p_A^t(\mathbf{c}^t) + \min_{i=1, \dots, N} \left( -\sum_{t=1}^T \log p_i^t(\mathbf{c}^t) \right)$$