Combining predictors adaptively

- ▶ Treat each of the predictors as an "expert".
- ▶ Assign a weight to each expert and reduce it if expert performs poorly.
- ▶ Combine expert predictions according to their weights.
- ▶ Would require only a single pass. Truly online.
- ▶ **Goal:** Total loss of algorithm minus loss of best predictor should be at most $\log_2 N$