

# A Parameter-free Hedging Algorithm

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A new hedging algorithm with no tuning parameters (*e.g.* learning rate, polynomial degree), based on a completely different potential function.

$$\exp\left(\frac{[\text{Regret to expert } i]_+^2}{2c_t}\right)$$

Set automatically by the algorithm.

For all  $\varepsilon$  simultaneously, regret bound to the top  $\varepsilon$ -quantile ( $\varepsilon = 1/N$  gives regret to the best expert):

$$O(\sqrt{T \log(1/\varepsilon)} + \log^2 N)$$