

Proof

- let $F(x) = \sum_t \alpha_t h_t(x) \Rightarrow H_{\text{final}}(x) = \text{sign}(F(x))$
- *Step 1*: unwrapping recurrence:

$$\begin{aligned} D_{\text{final}}(i) &= \frac{1}{m} \frac{\exp\left(-y_i \sum_t \alpha_t h_t(x_i)\right)}{\prod_t Z_t} \\ &= \frac{1}{m} \frac{\exp(-y_i F(x_i))}{\prod_t Z_t} \end{aligned}$$