Quiz 1

March 18th 2020

1 Lecture 15

$$
\begin{aligned}
f &= (1-\epsilon_t)e^{-\alpha} + \epsilon_t e^{\alpha} \\
\nabla f &= 0 \\
-(1-\epsilon_t)e^{-\alpha} + \epsilon_t e^{\alpha_t} &= 0 \\
\alpha_t &= \frac{1}{2}\log(\frac{1-\epsilon_t}{\epsilon_t})
\end{aligned}
$$

2 Lecture 16

1. AdaBoost increases the margins
2. Large margin in training indicates lower generalization error, independent of the number of rounds of boosting.