



deeplearning.ai

Comparing to human-
level performance

Understanding
human-level
performance

Human-level error as a proxy for Bayes error

Medical image classification example:

Suppose:

(a) Typical human 3 % error

→ (b) Typical doctor 1 % error

(c) Experienced doctor 0.7 % error

→ (d) Team of experienced doctors .. 0.5 % error

Bayes error \leq 0.5 %

What is “human-level” error?



Error analysis example

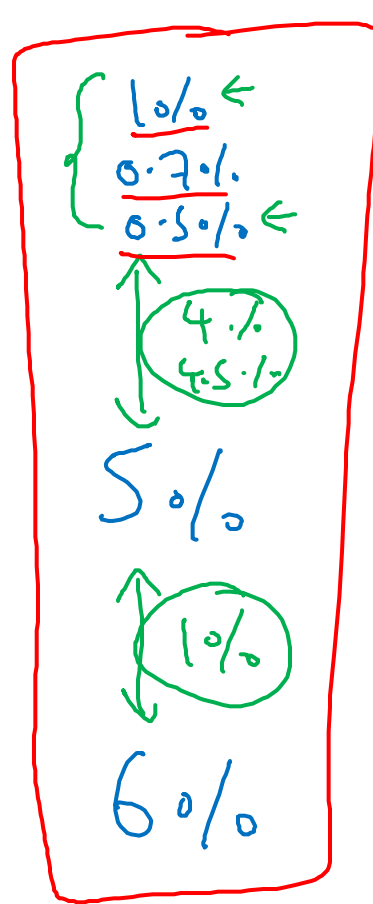
Human (proxy for Bayes error)

↑ Avoidable bias
↓

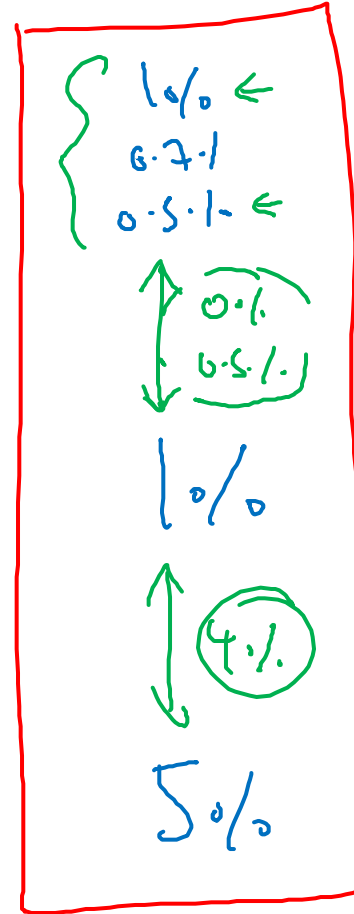
Training error

↑ Variance
↓

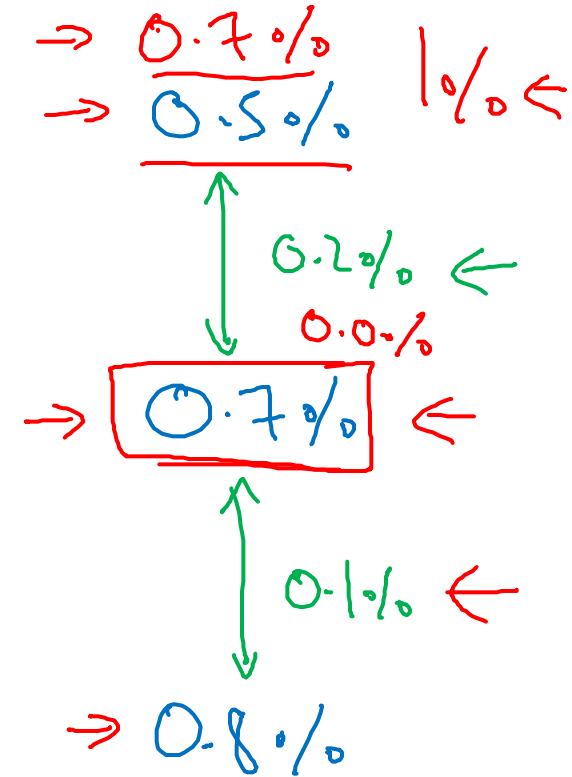
Dev error



↑ Bias



↑ Variance



Summary of bias/variance with human-level performance

