

# Entropy for Word Prediction

Is word **W** present (or absent) in this segment?



1)  $W = \text{"meat"}$

2)  $W = \text{"the"}$

3)  $W = \text{"unicorn"}$

Which is **high/low**?  $H(X_{\text{meat}})$ ,  $H(X_{\text{the}})$ , or  $H(X_{\text{unicorn}})$ ?

$H(X_{\text{the}}) \approx 0 \rightarrow$  no uncertainty since  $p(X_{\text{the}}=1) \approx 1$

**High entropy words are harder to predict!**