

Lecture 3: Measures of Information

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1 Entropy

Want: Information content of a random variable X P , not an outcome.

Entropy: Average Information Content of a random variable

$$H(x) \triangleq \mathbb{E}[\log_2 \frac{1}{P(X)}] = \sum_{x \in \mathcal{A}} P(x) \cdot \log_2 \frac{1}{P(x)}$$