

Generative Process for $Y|X = x$ (ARIMEC)

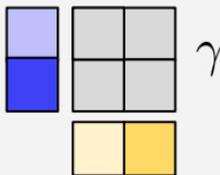
$$\mathbb{X} = \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{dark blue} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{light red} \\ \hline \text{dark red} \\ \hline \end{array} \quad \mathbb{Y} = \begin{array}{|c|} \hline \text{light yellow} \\ \hline \text{dark yellow} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{light green} \\ \hline \text{dark green} \\ \hline \end{array}$$

$$x = \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{dark red} \\ \hline \end{array}$$

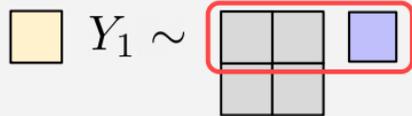
Partition \mathcal{P}_{\square} maximizes entropy

$$\left\{ \left\{ \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{light red} \\ \hline \end{array}, \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{dark red} \\ \hline \end{array} \right\}, \left\{ \begin{array}{|c|} \hline \text{dark blue} \\ \hline \text{light red} \\ \hline \end{array}, \begin{array}{|c|} \hline \text{dark blue} \\ \hline \text{dark red} \\ \hline \end{array} \right\} \right\}$$

MEC



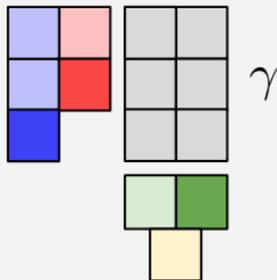
Sample Y_1



Partition \mathcal{P}_{\square} maximizes entropy

$$\left\{ \left\{ \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{light red} \\ \hline \end{array}, \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{dark red} \\ \hline \end{array} \right\}, \left\{ \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{light red} \\ \hline \end{array}, \begin{array}{|c|} \hline \text{light blue} \\ \hline \text{dark red} \\ \hline \end{array} \right\}, \left\{ \begin{array}{|c|} \hline \text{dark blue} \\ \hline \text{light red} \\ \hline \end{array}, \begin{array}{|c|} \hline \text{dark blue} \\ \hline \text{dark red} \\ \hline \end{array} \right\} \right\}$$

MEC



Sample Y_2

