

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

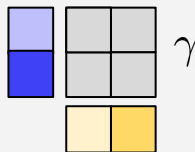
$$x = \begin{array}{|c|c|} \hline \text{light blue} & \text{red} \\ \hline \end{array}$$

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

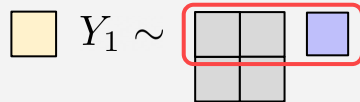
Partition \mathcal{P}_{\emptyset} maximizes entropy

$$\left\{ \begin{array}{c} \mathbb{B}_{\begin{array}{|c|} \hline \text{light blue} \\ \hline \end{array}} \\ \hline \left\{ \begin{array}{|c|c|} \hline \text{light blue} & \text{light red} \\ \hline \end{array}, \begin{array}{|c|c|} \hline \text{light blue} & \text{red} \\ \hline \end{array} \right\}, \left\{ \begin{array}{|c|c|} \hline \text{blue} & \text{light red} \\ \hline \end{array}, \begin{array}{|c|c|} \hline \text{blue} & \text{red} \\ \hline \end{array} \right\} \end{array} \right\}$$

MEC



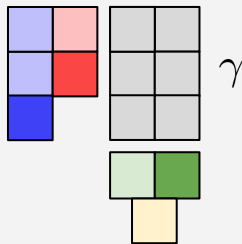
Sample Y_1



Partition $\mathcal{P}_{\begin{array}{|c|} \hline \text{light blue} \\ \hline \end{array}}$ maximizes entropy

$$\left\{ \begin{array}{c} \mathbb{B}_{\begin{array}{|c|c|} \hline \text{light blue} & \text{light red} \\ \hline \end{array}} \\ \hline \left\{ \begin{array}{|c|c|} \hline \text{light blue} & \text{light red} \\ \hline \end{array}, \begin{array}{|c|c|} \hline \text{light blue} & \text{red} \\ \hline \end{array} \right\}, \left\{ \begin{array}{c} \mathbb{B}_{\begin{array}{|c|} \hline \text{light blue} \\ \hline \end{array}} \\ \hline \left\{ \begin{array}{|c|c|} \hline \text{blue} & \text{light red} \\ \hline \end{array}, \begin{array}{|c|c|} \hline \text{blue} & \text{red} \\ \hline \end{array} \right\} \end{array} \right\}$$

MEC



Sample Y_2

