

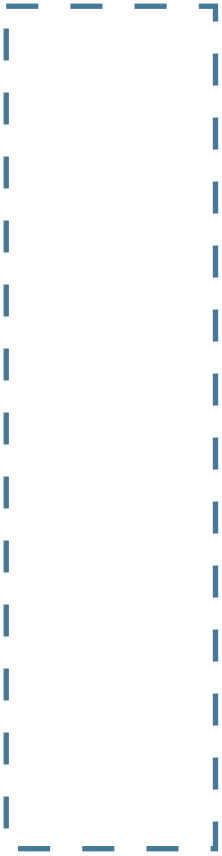


True Grit with Data Parallelism









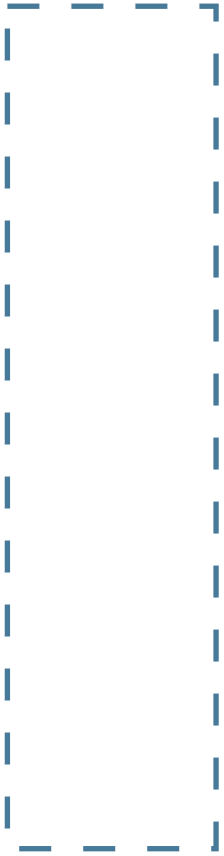












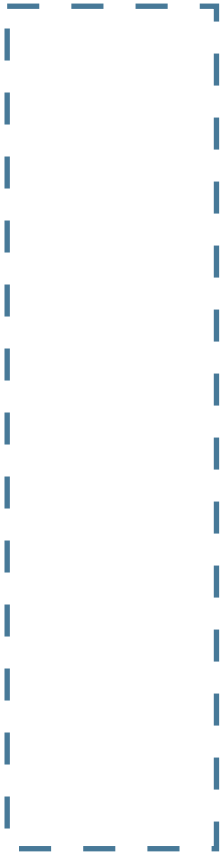
























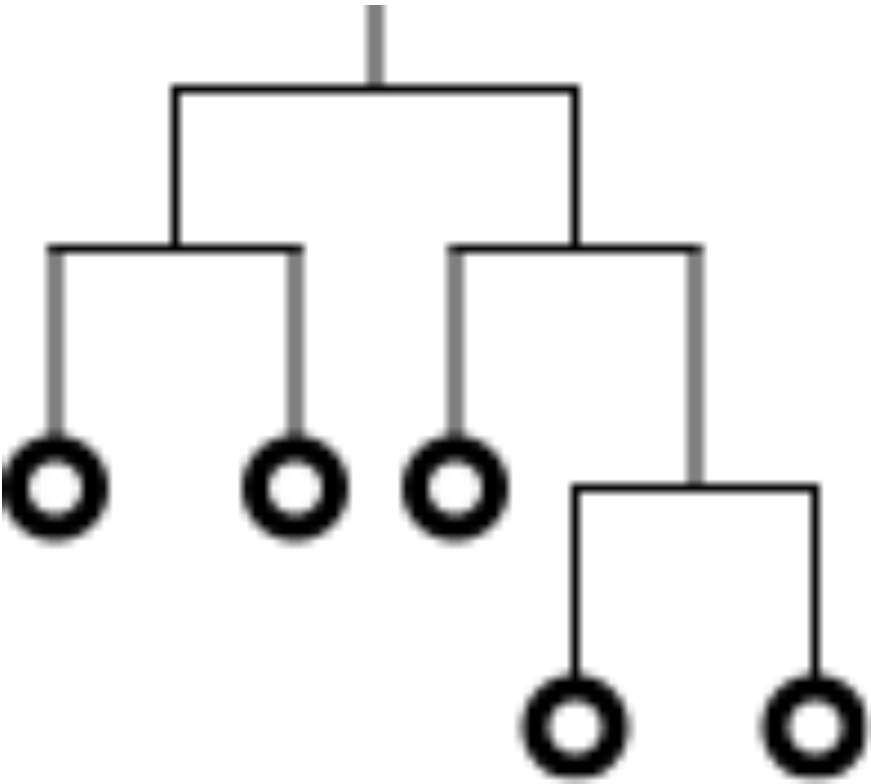














$$X = \{X_1, \dots, X_n\}$$

math(X,1)

math (X)

math (XK)

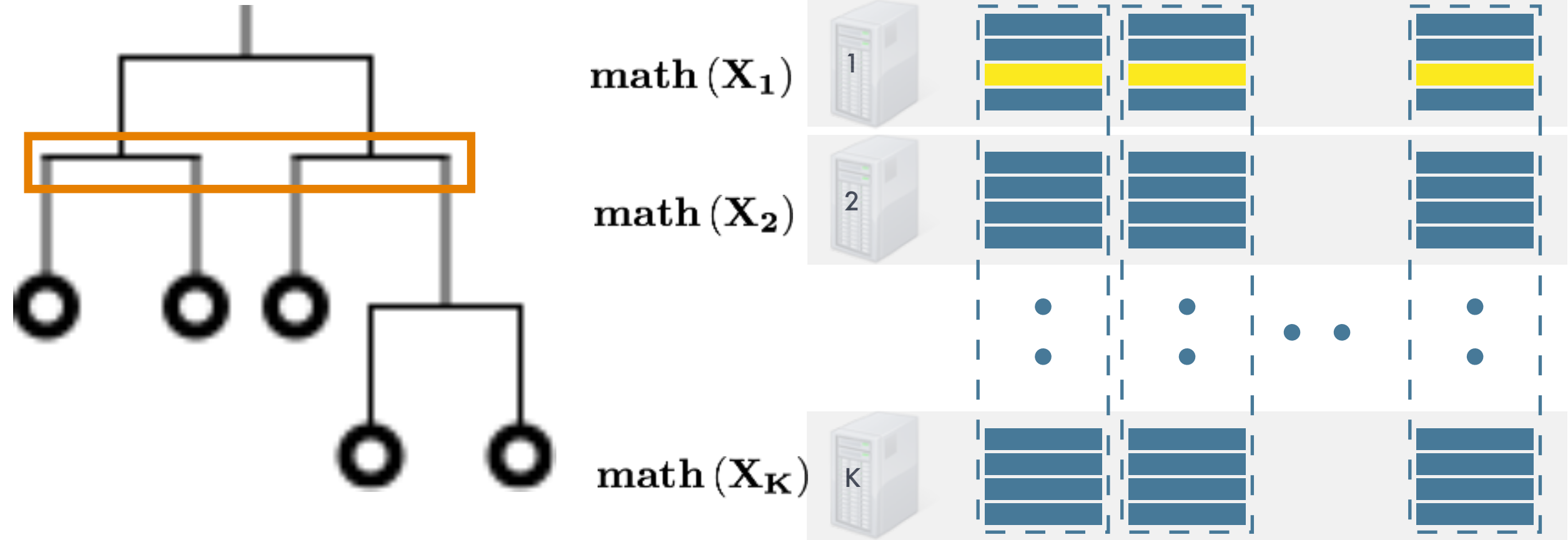
$$\{X_i; t_i\} = f(\mathbf{math(x_1)}, \dots, \mathbf{math(x_K)})$$



Tree Growth with Data Parallelism

$$\{X_i; t_i\} = f(\text{math}(\mathbf{X}_1), \dots, \text{math}(\mathbf{X}_K))$$

$$\mathbf{X} = \{\mathbf{X}_1, \dots, \mathbf{X}_K\}$$

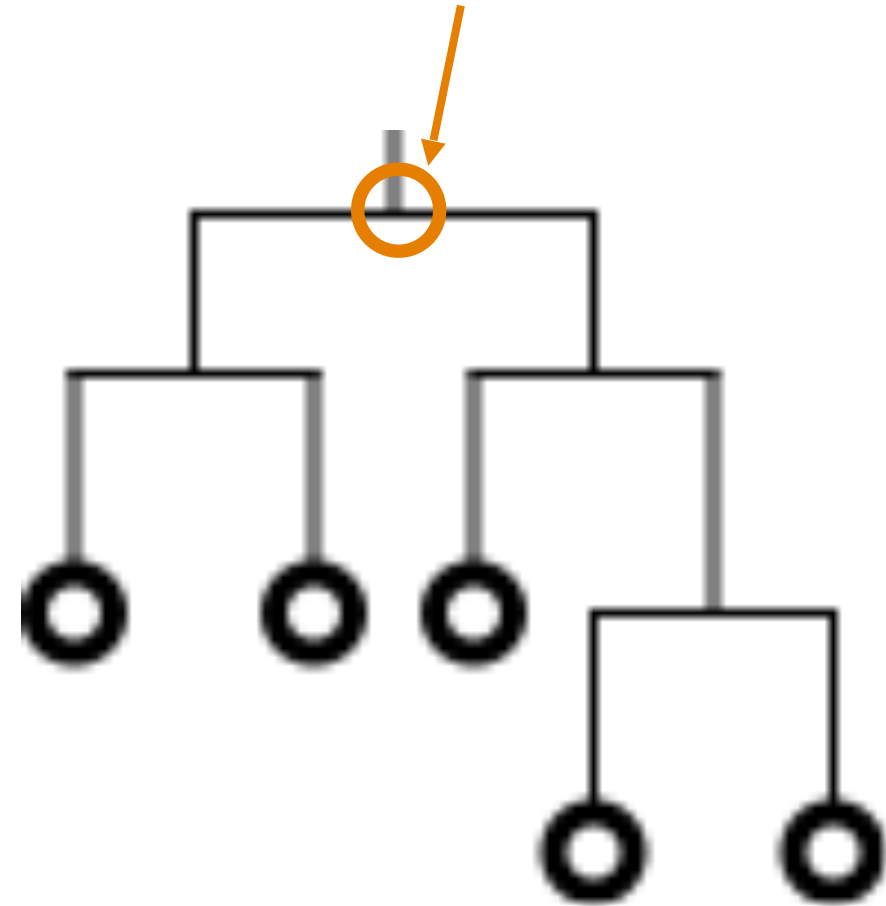


Full Data Parallelism for Each Level of Tree Growth!

Tree Growth with Data Parallelism

$$\{X_i; t_i\} = f(\text{math}(\mathbf{X}_1), \dots, \text{math}(\mathbf{X}_K))$$

$$\mathbf{X} = \{\mathbf{X}_1, \dots, \mathbf{X}_K\}$$



$\text{math}(\mathbf{X}_1)$

$\text{math}(\mathbf{X}_2)$

$\text{math}(\mathbf{X}_K)$

