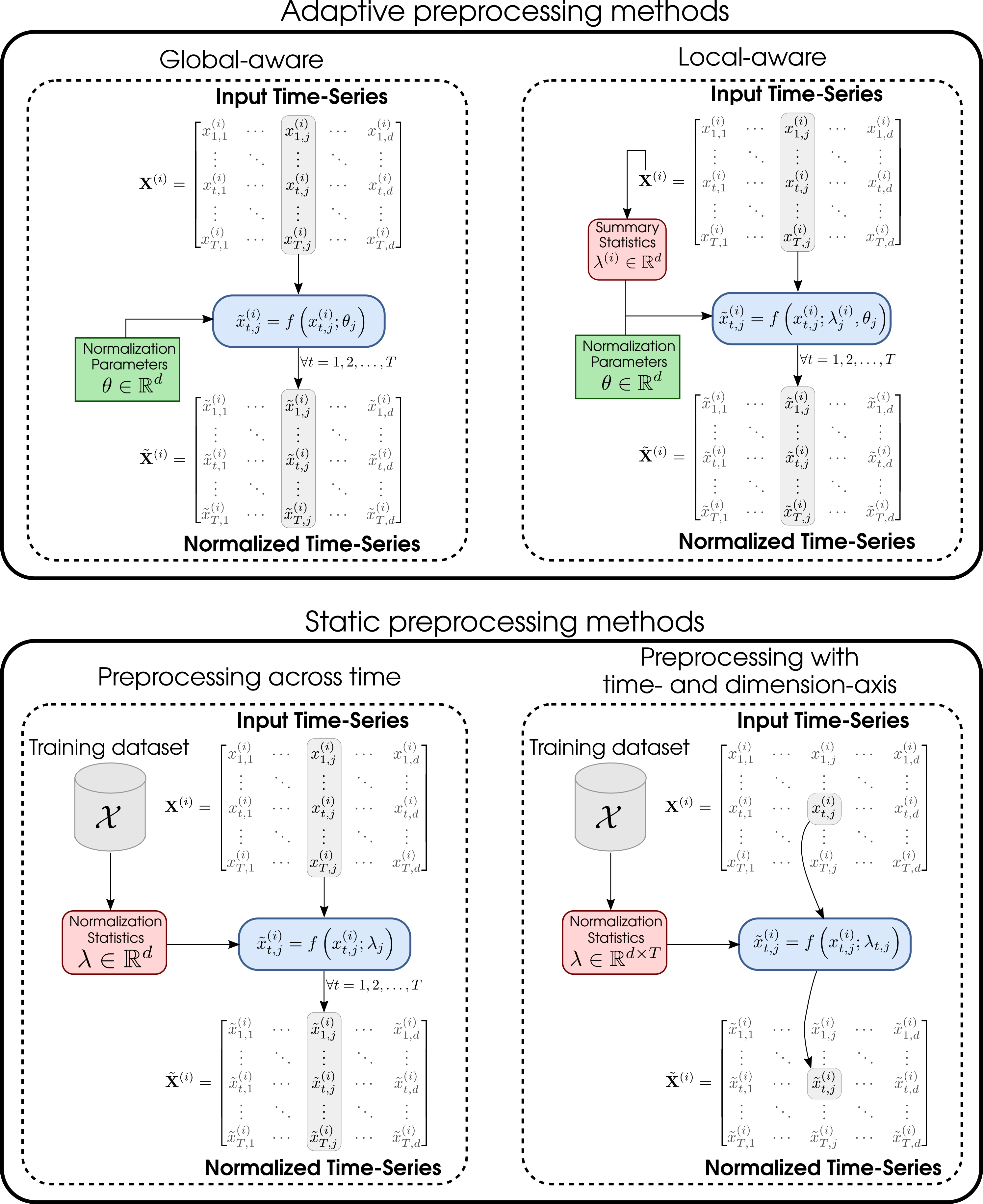

Adaptive preprocessing methods
Global-aware
Input Time-Series
$\mathbf{X}^{(i)} =$
Normalization Parameters $\theta \in \mathbb{R}^d$
$\tilde{x}^{(i)}_{t,j} = f\left(x^{(i)}_{t,j}; \theta_j\right)$
$\forall t = 1, 2, \ldots, T$
$\tilde{\mathbf{X}}^{(i)} =$
Normalized Time-Series
Local-aware
Input Time-Series
$\mathbf{X}^{(i)} =$
Summary Statistics $\lambda^{(i)} \in \mathbb{R}^d$
Normalization Parameters $\theta \in \mathbb{R}^d$
$\tilde{x}^{(i)}_{t,j} = f\left(x^{(i)}_{t,j}; \lambda^{(i)}_j, \theta_j\right)$
$\forall t = 1, 2, \ldots, T$
$\tilde{\mathbf{X}}^{(i)} =$
Normalized Time-Series
Static preprocessing methods
Preprocessing across time
Input Time-Series
Training dataset
$\mathcal{X}$
$\mathbf{X}^{(i)} =$
Normalization Statistics $\lambda \in \mathbb{R}^d$
$\tilde{x}^{(i)}_{t,j} = f\left(x^{(i)}_{t,j}; \lambda_j\right)$
$\forall t = 1, 2, \ldots, T$
$\tilde{\mathbf{X}}^{(i)} =$
Normalized Time-Series
Preprocessing with time- and dimension-axis
Input Time-Series
Training dataset
$\mathcal{X}$
$\mathbf{X}^{(i)} =$
Normalization Statistics $\lambda \in \mathbb{R}^{d \times T}$
$\tilde{x}^{(i)}_{t,j} = f\left(x^{(i)}_{t,j}; \lambda_{t,j}\right)$
$\tilde{\mathbf{X}}^{(i)} =$
Normalized Time-Series