a

True dynamics

$$\dot{\mathbf{x}} = \mathbf{f}_{\boldsymbol{\Phi}}(\mathbf{x}) \in \mathrm{span}\{\boldsymbol{\mathcal{F}}(\mathbf{x}), \boldsymbol{\mathcal{G}}(\boldsymbol{\Phi}), \boldsymbol{\mathcal{H}}(\mathbf{x}, \boldsymbol{\Phi})\}$$

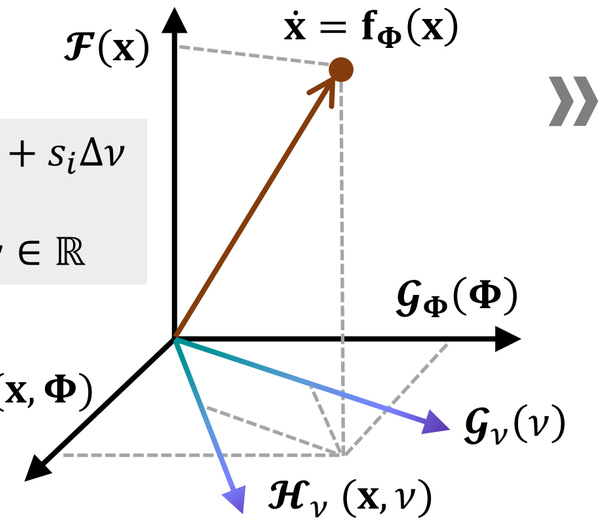
$$\boldsymbol{\Phi} \in \mathbb{R}^n \ , \boldsymbol{\Phi}_{i+1} = \boldsymbol{\Phi}_i + s_i \Delta\boldsymbol{\Phi}$$

b

Equivalent basis in model space

$$\nu_{i+1} = \nu_i + s_i \Delta\nu$$

$$\forall \nu_1, \Delta\nu \in \mathbb{R}$$



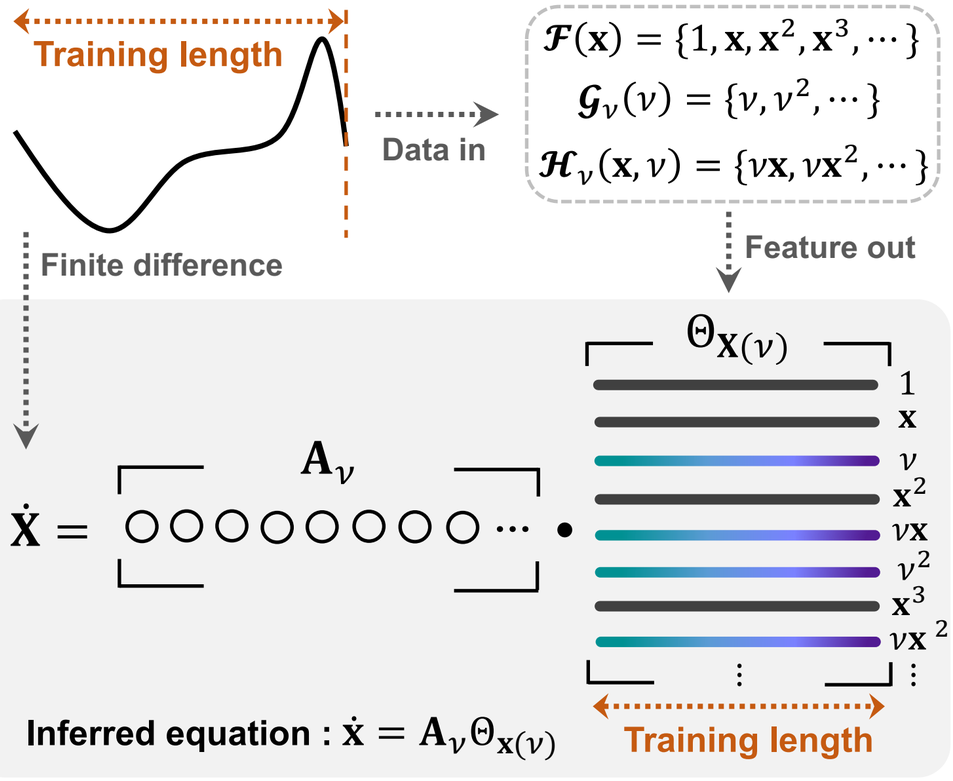
c

Discretizing ν for grid search

$\nu_1^{(1)}$	$\nu^{(1,1)}$	$\cdots$	$\nu^{(1,N)}$
$\vdots$	$\vdots$	$\nu^{(P,Q)}$	$\vdots$
$\nu_1^{(M)}$	$\nu^{(M,1)}$	$\cdots$	$\nu^{(M,N)}$
	$\Delta\nu^{(1)}$	$\cdots$	$\Delta\nu^{(N)}$

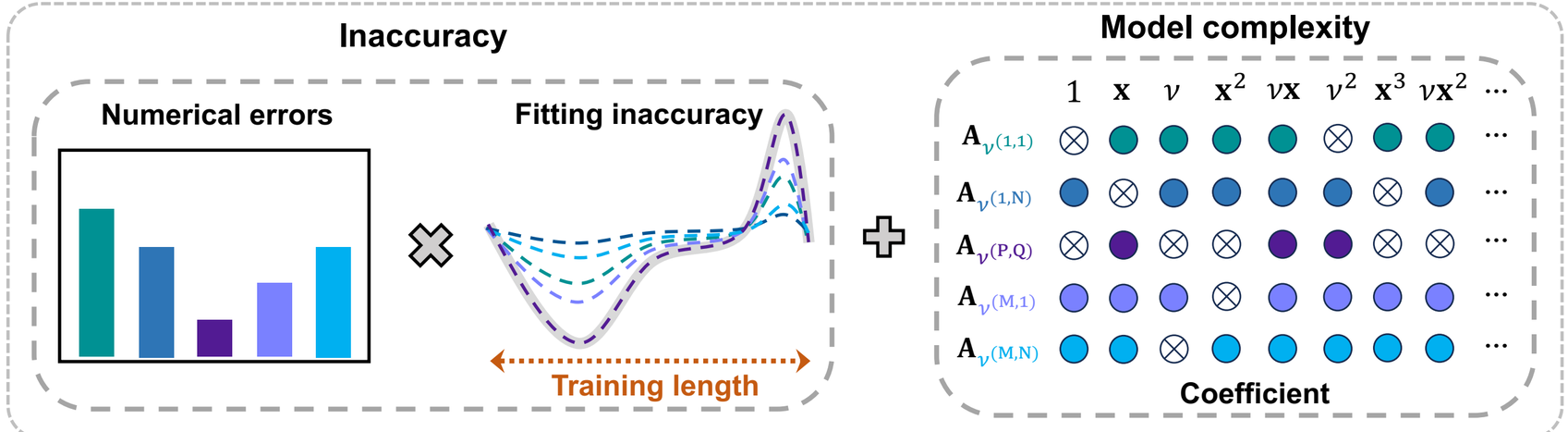
d

Solving coefficient matrix $\mathbf{A}_\nu$ for each grid



e

Identifying the optimal ν with least εAIC: $\nu^{(P,Q)}$



f

Inferred equation with optimal ν