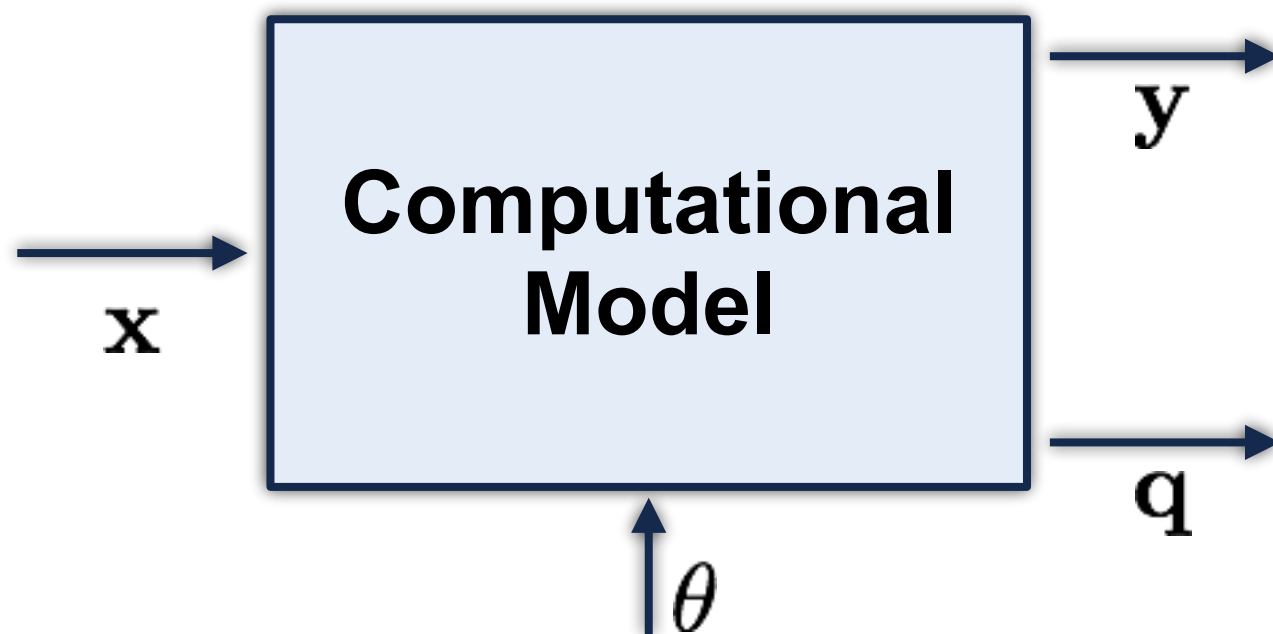# Classic Approach to Validation
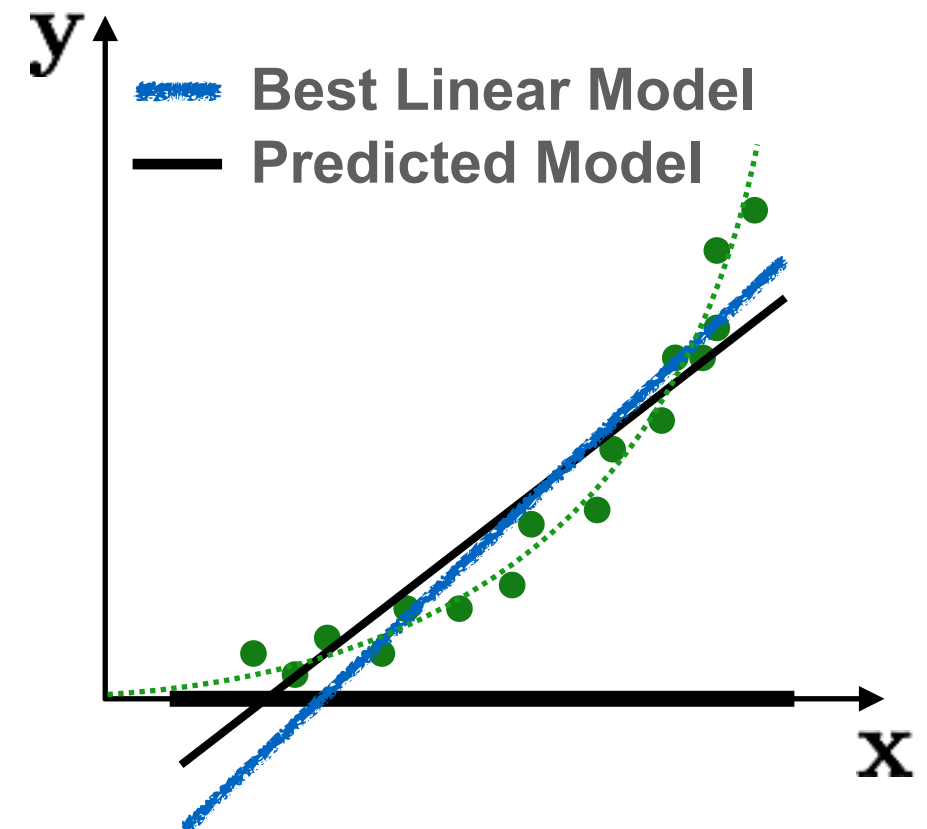
One approach [2] for taking into account the uncertainties on the predictions relies on "appending" a statistical model directly to the observable quantities:

The causes of the difference between the true value of the real world process and the code-value are:

- Experimental or Measurement or Observation Error: ● vs – –
- Model Uncertainty or Structural Inadequacy: ▬ vs ●
- Parameter Uncertainty: ▬ vs ▬

→ Due to Embedded Model!

The Predictive Validation Process

Alternatively, we can move the non-deterministic model **upstream to the embedded component**, which is the main source of uncertainty (generally).