D-07 Fully-Automatic Bayesian Piecewise Sparse Linear Models

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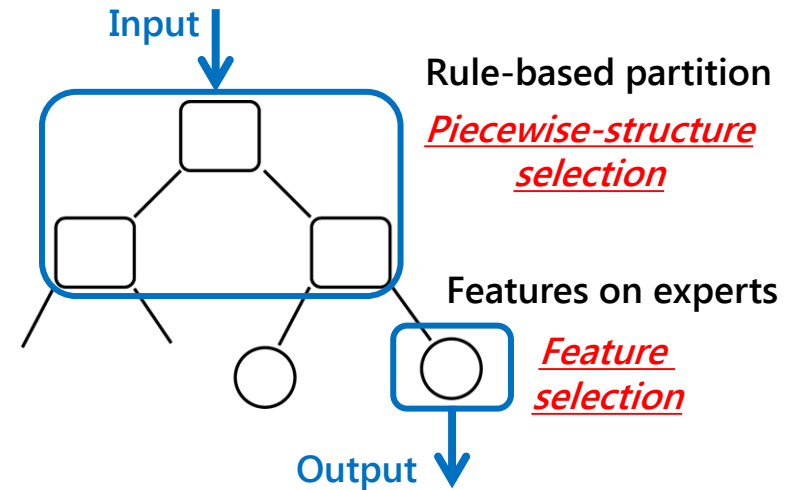[1]*NEC Corporation*   [2]*NEC Laboratories America*

■ **Our goal is to construct Piecewise Sparse Linear Models (PSLMs).**
   - Piecewise linear models with sparse linear experts

➡ | *Interpretability* |
| *Accuracy* |

■ **This research addresses simultaneous model selection issues.**

   - *Piecewise structure selection*

   - *Feature selection of individual experts*

Input

Rule-based partition

Piecewise-structure selection

Features on experts

Feature selection

Output

[Approaches]

- **For the model selection issues,
  we extend factorized asymptotic Bayesian inference for Hierarchical Mixtures of Experts.**

- **For the high predictive accuracy,
  new posterior optimization algorithms are developed.**