THRML Integration Architecture

● CORE COMPONENTS

CategoricalNode
└ *Discrete state variables*

SpinNode
└ *Binary ±1 variables*

Block
└ *Organization of related nodes*

BlockSpec
└ *Block structure specification*

BlockGibbsSpec
└ *Gibbs sampling configuration*

combines →

● SAMPLING & FACTORS

CategoricalEBMFactor
└ *Energy-based factor for categorical*

CategoricalGibbsConditional
└ *Categorical Gibbs sampler*

FactorSamplingProgram
└ *Factor-based sampling program*

sample_states
└ *Main THRML sampling function*

SamplingSchedule
└ *Warmup + sampling configuration*

● STATE MANAGEMENT

make_empty_block_state → block_state_to_global → from_global_state

DEFAULT_NODE_TYPE_DTYPES feature mappings

THRML Methods Used: 14
Inference Accuracy (KL): 0.000751 nats
Status: ✓ All methods actively invoked