

**Score Metrics:**

METRIC NAME	DESCRIPTION
K2 SCORE	Assumes uniform priors and is efficient for datasets where variables have a natural ordering.
BDEU (BAYESIAN DIRICHLET EQUIVALENT UNIFORM) SCORE	Incorporates prior knowledge and assumes a uniform prior distribution over the parameters, making it suitable when prior information is limited.
BDS (BAYESIAN DIRICHLET SPARSE) SCORE	A variant of BDeu that introduces sparsity, favoring simpler models.
BIC (BAYESIAN INFORMATION CRITERION) SCORE	Balances model fit and complexity by introducing a penalty for the number of parameters, helping to prevent overfitting.
AIC (AKAIKE INFORMATION CRITERION) SCORE	Similar to BIC but with a different penalty term, focusing more on the goodness of fit.
LOG-LIKELIHOOD SCORE	Measures how well the model explains the observed data without penalizing for complexity.
GAUSSIAN LOG-LIKELIHOOD SCORE	Used for continuous data under the assumption of a Gaussian distribution.
GAUSSIAN BIC SCORE	Combines the Gaussian Log-Likelihood with a BIC penalty for model complexity.
GAUSSIAN AIC SCORE	Combines the Gaussian Log-Likelihood with an AIC penalty for model complexity.
CONDITIONAL GAUSSIAN LOG-LIKELIHOOD SCORE	For models with both discrete and continuous variables, assessing fit under a conditional Gaussian assumption.
CONDITIONAL GAUSSIAN BIC SCORE	Applies BIC to conditional Gaussian models.
CONDITIONAL GAUSSIAN AIC SCORE	Applies AIC to conditional Gaussian models.

**Prior Types:**

PRIOR TYPE	DESCRIPTION
'DIRICHLET'	Requires specifying pseudo_counts, which are Dirichlet hyperparameters added to the observed counts, allowing incorporation of prior knowledge about the distribution of parameters.
'BDEU'	Requires specifying equivalent_sample_size, representing the strength of the prior belief. This is equivalent to using uniform pseudo_counts of $\text{equivalent\_sample\_size} / (\text{node\_cardinality} * \text{product of parents\_cardinalities})$ .
'K2'	Assumes uniform priors without requiring additional parameters, simplifying the estimation process when prior information is limited or unavailable.