Metrics

* Accuracy = (TP + TN) / All <- Depends on positives
* Specificity = TN / N <- Not depends on positives
* Sensitivity = TP / P <- Depends on positives
* Precision = TP / (TP + FP) <- Depends on positives
* Precision on the negative label = TN / (TN + FN) <- Not depends on positives

ROC Curve

* The ROC curve cannot be read from a single confusion matrix.
* One ROC curve can only be used to describe binary classification. For multi-class classification, can plot one VS one or one VS all ROC curves.

**Issues Affecting Model Selection:** Accuracy, Speed, Robustness, Scalability, Interpretability, goodness of rules

**Classification of Class-Imbalanced Data Sets:** Oversampling, Under-sampling, Threshold-moving, Ensemble techniques

Bayesian Network:

* A → B → C (Cascade): A and C are dependent, but (conditionally) independent if the value of B is given
* A ← B → C (Common Parent): A and C are dependent, but (conditionally) independent if the value of B is given
* A → B ← C (Common Child): A and C are by themselves independent, but conditioning on B will make A and C dependent