This bachelor thesis deals with recursive estimation of a dependence of the models with discrete variables on variables that are either discretely or continuously distributed. To this purpose Bayes formula, described in the first chapter, is used, to which an additional assumption of conditional independence is added so that it can be used dynamically. The second chapter describes an approximation algorithm, which is used for recursive approximation of the density of random variable that has been estimated by the Bayesian equation. The third chapter deals with the application of the whole model on a special form of logistic regression. Results are shown on the examples using simulated data. At last, the model along with approximation algorithm is applied on a trading with futures.