

This thesis deals with classification based on mixture models, mainly on models finite normal. At first, there are introduced basic definitions and characteristics of finite mixtures. Afterwards there is described the maximum likelihood method and her obstacles in context of finite mixtures, which we are using for unknown parameters estimation. Then there is described EM algorithm, that is used to obtain the maximum likelihood estimator and there are calculated the formulae for one iteration of EM algorithm. In the last part there is shown, how can finite normal mixtures be used for classification.