

In this bachelor thesis we focus on concentration inequalities for sums of independent random variables, which are bounded and not necessarily identically distributed. The main pillar of the thesis is Hoeffding's inequality, finding its improvement and other similar inequalities. Inequalities are completed with examples for various probability distributions. In each example there is a theoretical calculation, a simulation for specifically selected parameters and a graphical representation of all the obtained estimates, which was created using the R programming language.