

**Abstract:**

This thesis deals with an issue of futures derivative trading from a perspective of a minor speculator. The aim of this work is to find and design an optimal trading strategy using dynamic programming and approximate dynamic programming. We use means of Bayesian statistics to obtain predictions of variate's behavior and risk indicators to form a rate of carefulness. Effectivity of algorithm is afterwards tested in Matlab program. Available data for testing the success of the method offer more then 15.000 trading days.