**ABSTRACT**

This diploma project is dedicated to the development of the system for parallel searching in Go data structures.

The following was made in this project: comparative analysis of existing programs for searching in Go data structures was done, methods for parallel search execution in Go data structures were analyzed; choice of the platform and programming language for development of the application for searching in Go data structures was made.

Implemented methods are negamax search – variation of minimax search, pattern-matching techniques and Monte-Carlo Tree Search method.

All this mentioned algorithms were parallelized. Also system that opens SGF-files and converts them into inner-tree format was developed.