

# Parallel and Distributed Construction of the State Spaces in the Model Checker [mc]square

## Motivation

Clusters on the basis of regular PCs are widely used by now. As the approach of model checking consumes a lot of memory and is computationally intensive, it is reasonable to think about parallelizing the algorithms that have been used in [\[mc\]square](#).

## Goal

The goal of this thesis is the parallelization of the model checker [mc]square. Your first task is to create an overview of parallel algorithms for CTL model-checking. After that you're supposed to compare the different approaches with each other and examine which of the approaches is the best to implement. Finally, you shall convert it into [mc]square.

## Fields of Study

- Computer science

## Required Knowledge

- Java
- Programming of parallel programs
- Model checking if applicable

## Student

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## Tutor

- [Dr.rer.nat. Bastian Schlich](#)

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