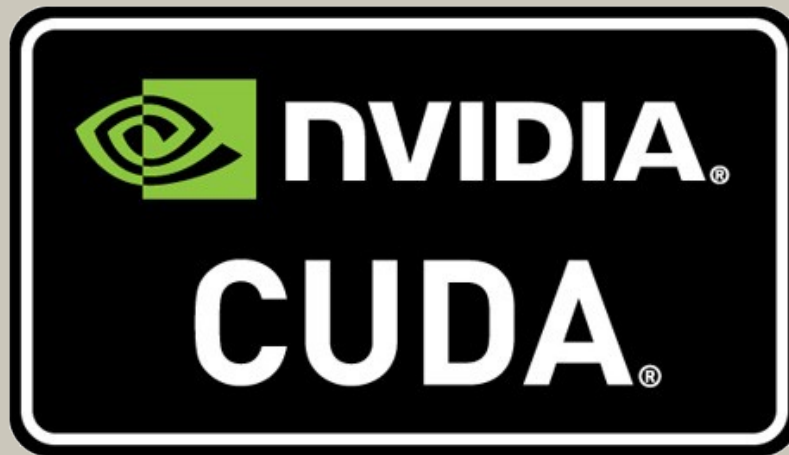




CHR Research Group Ulm



Thesis / Abschlussarbeit

Parallel CHR with CUDA

Project Details:

Modern GPUs provide hundreds of cores suitable for high-performance computing. The programming language CHR is inherently parallel.

The task of this thesis is to evaluate possible implementation approaches, which allow execution of CHR rules on GPUs.

The thesis offers two possible directions for students: the focus can either be on using CHR rules in order to provide declarative and executable graphic algorithms, i.e. abstracting from CUDA, or on being able to execute traditional CHR programs in parallel on a GPU.

We offer:

- Excellent assistance
- Possibility for subsequent master or diploma theses
- Possibility of authoring scientific publications
- Connect to world-wide community of CHR researchers

We expect:

- Dedication
- Knowledge of CHR/CUDA or interest to invest additional time for learning

Background Information on CHR:

Constraint Handling Rules (CHR) is a powerful rule-based declarative programming language, invented by Prof. Frühwirth in the early 90ies. Our research group in Ulm is actively working on improving and extending CHR in cooperation with researchers and industrial partners from all over the world.

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