

RWTH Aachen University
Department of Computer Science

Design and Performance Engineering of GPU-Accelerated Tensor Network Algorithms for Large-Scale Scientific Simulations

Master Thesis

submitted by

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Aachen, February 17, 2026

Abstract

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Acknowledgements

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The remainder of this thesis is structured as follows. Chapter 2 introduces ...Chapter 3 presents ...Chapter 4 details ...Chapter 5 evaluates ...Chapter 6 summarises ...

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A. Supplementary Benchmarks

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Declaration of Authorship

I hereby declare that I have created this work completely on my own and used no other sources or tools than the ones listed, and that I have marked any quotes accordingly.

Aachen, February 17, 2026

Daniel Sinkin