

# Multiplication of Two Bignum Prime Numbers on a Nvidia Graphic Card

Johannes Häbe  
jh-191149@hs-weingarten.de

Maximilian Nestle  
mn-192181@hs-weingarten.de

Ravensburg-Weingarten University of Applied Sciences

March 16, 2020

## **Abstract**

This paper is about testing the performance of the NVIDIA CUDA Fast Fourier Transform library (cuFFT) by multiplying bignum prime numbers on the graphic card. Several different tests are presented, evaluated and compared.

## **1 Introduction**

The fast multiplication of two large prime numbers is an important step if you want to hack asymmetrical encryption algorithms like the RSA encryption. Therefore the computing time of bignum multiplication on cpu and gpu is compared and evaluated in this paper.

## References