

Supervisor assessment of Master's Thesis

Student: Nedeljković Sava, Bc.
Title: Acceleration of Photoacoustic Imaging (id 21922)
Supervisor: Jaroš Jiří, doc. Ing., Ph.D., DCSY FIT BUT

1. Assignment comments

The goal of this master's thesis was to develop a GPU accelerated algorithm for photoacoustic image reconstruction. This was a very ambitious goal considering the student had to study the physical principle of the photoacoustic reconstruction, understand its characteristics, transform it into an effective algorithm for Nvidia GPUs, and generate a set of testing images to evaluate the quality and efficiency of the implementation. Although looking promising at the beginning, the COVID-19 crisis interrupted all works for more than two months. The project is thus not complete, only contains a prototype of the application with simplified testing, but most importantly, misses substantial parts of the thesis.

2. Literature usage

The student was very active in reviewing related literature and was given a good insight into the problem.

3. Assignment activity, consultation, communication

The student was very active during the winter and the first half of the summer semester. He was highly motivated, confident about the project course, showing very good progress and overall understanding of the project. The work was heading for the highest marks.

4. Assignment finalisation

Unfortunately, the COVID-19 crisis completely interrupted our communications and works on the project. I was provided with an incomplete version of the thesis only a few days before deadline. It was clear it would not be possible to finish it properly.

5. Publications, awards

6. Total assessment

sufficient (E)

It is very hard to mark this master's thesis. Looking into the technical report, it is clearly not finished and should not be accepted. On the other hand, Sava Nedeljković is a brilliant student who was able to study a complicated topic, design a working algorithm, and provide a basic quality evaluation. Looking at his preliminary results, the work has a great potential. I firmly believe that Sava is able to finish the thesis in a very short time.

In Brno 29 June 2020

Jaroš Jiří, doc. Ing., Ph.D.
supervisor