

Review of Master's Thesis

Student: Marek Jan, Bc.
Title: Reconstruction of Missing Parts of the Face Using Neural Network (id 19346)
Reviewer: Dražanský Martin, prof. Ing., Dipl.-Ing., Ph.D., DITS FIT BUT

- 1. Assignment complexity** **more demanding assignment**
I consider the difficulty of this diploma thesis assignment to be above the average, since Mr. Marek used his own neural network architecture based on recently published articles, i.e. there was not enough information about this approach.
- 2. Completeness of assignment requirements** **assignment fulfilled**
The assignment was fulfilled in all points. For point 5 of the assignment, it is not clear whether 100 new images should have been created or whether these 100 images fall into the large dataset (ground truth) that the student used in his work. However, the dataset has been divided into a training and test part and the image selection has been performed in the test dataset.
- 3. Length of technical report** **within minimum requirements**
The length of the technical report meets only the minimum range set for the text part of the written work.
- 4. Presentation level of technical report** **83 p. (B)**
The work has a logical structure, the individual chapters follow each other and the work is understandable for the reader. The scope of the chapters is unbalanced, especially the chapter describing the evaluation of the solution is very brief.
- 5. Formal aspects of technical report** **90 p. (A)**
I evaluate the typographic and linguistic part of the work as very successful.
- 6. Literature usage** **88 p. (B)**
The bibliography contains relevant and current sources. These are used in the work correctly and thanks to this it is possible to distinguish the student's own work from the taken passages. However, in some parts of the description of the current state of art, I would recommend the more extensive use of citations. Bibliographic data are complete and in accordance with citation practices.
- 7. Implementation results** **95 p. (A)**
I rate the implementation output as excellent. The solution is fully functional and the achieved results are fully competitive with other solutions. The source codes are clear and sufficiently commented, although more detailed comments would not be detrimental.
- 8. Utilizability of results**
The results are definitely applicable in practice. I recommend publishing them in an international scientific forum.
- 9. Questions for defence**
 - What are the limits of the presented solution in the possibility of increasing the resolution of input data?
 - Is there any image pre-processing step that could significantly improve the functionality of the whole solution?
- 10. Total assessment** **88 p. very good (B)**
The work makes an overall very good impression, the practical solution is excellent, but there are some shortcomings in the text. Therefore, I propose an overall grade **B (very good)** rating with **88** points.

In Brno 11 August 2020

Dražanský Martin, prof. Ing., Dipl.-Ing.,
Ph.D.
reviewer