

Review of Bachelor's Thesis

Student: Paul Daniel
Title: Detection, Extraction and Measurement of the Length and Width of the Metacarpal Bones in Images (id 24223)
Reviewer: Dvořák Michal, Ing., DITS FIT BUT

1. **Assignment complexity** **average assignment**
This assignment is of average difficulty.
2. **Completeness of assignment requirements** **assignment fulfilled**
All the sub-tasks as well as the overall assignment has been fulfilled. Beyond the assignment, the student has included a graphical user interface.
3. **Length of technical report** **within minimum requirements**
The document meets just the minimum requirements, however, it does not come at cost of clarity as almost all the sections and chapters cover the target topic in sufficient manner.
With the exception of evaluation, where while the results are presented in understandable manner, the manner in which they were acquired is not described.
4. **Presentation level of technical report** **90 p. (A)**
The overall flow and structure of the thesis is very well done. The thesis is separated into well structured number of sections and subsections. My only complaint is the inclusion of implementation details into **Chapter 4. Testing and evaluation** along with the evaluation.
5. **Formal aspects of technical report** **95 p. (A)**
To the best of my knowledge, the level of written language in this work is very high, with only infrequent and minor stylistic issues
6. **Literature usage** **75 p. (C)**
The number and types of literary sources used are balanced.

Some claims are unsubstantiated. Eg. Several studies agree that converting blurred image to grayscale before using canny edge detection is beneficial for better detection of edges.
7. **Implementation results** **85 p. (B)**
While the program is fairly simple, it's design is well reasoned, and the approach is valid. The finished program is well written and adequately documented in the code itself. The inclusion of GUI (not required) further increases the value for the intended user.
8. **Utilizability of results**
The practical portion of this thesis is well done and should be usable for it's intended application.
9. **Questions for defence**
 - How did you evaluate the accuracy of your measurement? (1.27%, 0.33%) did you have the ground truth available?
 - How long does the processing of one image take?
10. **Total assessment** **85 p. very good (B)**
All the assignment requirements have been met and GUI was included above the requirements. The document of the thesis is well written and justifies the design and implementation decisions. While I lack a more thorough evaluation, the results themselves are good. Overall I propose grade **B**.

In Brno 4 June 2021

Dvořák Michal, Ing.
reviewer