

Review of Bachelor's Thesis

Student: Novotný Mlinárčsik Martin
Title: Detection of Pathological Findings in Videos from Bronchial Pathways (id 24849)
Reviewer: Goldmann Tomáš, Ing., DITS FIT BUT

- 1. Assignment complexity** **more demanding assignment**
Within this thesis, the detection of pathological findings is solved. Source videos are captured by a bronchoscope, making it difficult to process these data. Although available methods and algorithms can be used to solve the work, I consider the assignment be of more difficult.
- 2. Completeness of assignment requirements** **assignment fulfilled with minor reservations**
All assignment requirements have been completed. However, the fulfillment of assignment goals is of poorer quality.
- 3. Length of technical report** **within minimum requirements**
The scope of the technical report is approximately 40 standard pages of text and 15 pages of images.
- 4. Presentation level of technical report** **55 p. (E)**
The thesis is divided into 7 chapters. It would be better if the technical report was divided into fewer chapters. Unfortunately, the scope of the chapters is unbalanced. For example, Chapter 4 consists of only two pages. Another weakness is that the description of the proposed algorithm and implemented algorithm is very brief. I would appreciate a better description of the implemented algorithm.
The scope of medical theory should be shorter. For example, the description of pathologies at the cellular level is not relevant to the topic of the thesis, because the histological samples are not processed by the solution.
- 5. Formal aspects of technical report** **75 p. (C)**
Although I am not a native speaker, the level of written language in the technical report is average. From a typographic point of view, the technical report is well written with a minimum of shortcomings.
- 6. Literature usage** **62 p. (D)**
The reference list consists of 29 bibliographic records. Most of these resources are from the medical field, not from IT. Furthermore, the bibliography contains too many online resources. I have objections to the placement of references at the end of the paragraphs. This style of referencing is inappropriate.
- 7. Implementation results** **50 p. (E)**
The detector is based on existing algorithms from the OpenCV library. Because the student had a dataset with a small number of videos dataset, it is not possible to evaluate the complex functionality and performance of the pathology detector. However, the algorithm was tested on one video, where it was able to detect a pathology. The created solution was presented to me.
- 8. Utilizability of results**
In terms of usability, the results can be used for other work.
- 9. Questions for defence**
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- 10. Total assessment** **50 p. sufficient (E)**
Overall, I rate the fulfillment of the thesis as poor. Above all, the implementation part meets only the minimum requirements. Therefore, I propose an overall grade of **E (sufficient)**.

In Brno 3 June 2022

Goldmann Tomáš, Ing.
reviewer