

## Review of Bachelor's Thesis

**Student:** Vasiljević Nemanja  
**Title:** Partial Fingerprint Detection Using Blob Detection Algorithm (id 22498)  
**Reviewer:** Drahanský Martin, prof. Ing., Dipl.-Ing., Ph.D., UITS FIT VUT

- 1. Assignment complexity** **more demanding assignment**  
The assignment of this BSc. thesis is more demanding, because it was necessary to study the literature which is not much available and has an overlap in dermatology and to design suitable methods that will be useful for the detection and localization of diseases in fingerprints.
- 2. Completeness of assignment requirements** **assignment fulfilled with minor reservations**  
The assignment was fulfilled, but the methods appear to be selected at random from the existing solutions (note that developed in our team), none of them is improved and actually the achieved results are not exactly the best, i.e. the methods are not actually properly applicable in practice. Nevertheless, all the points were met.
- 3. Length of technical report** **within minimum requirements**  
The work meets only the minimum requirements in the scope of the technical report length.
- 4. Presentation level of technical report** **71 p. (C)**  
The work has a logical structure, the scope and continuity of the individual chapters are fine, but the work is sometimes harder to understand for the reader.
- 5. Formal aspects of technical report** **65 p. (D)**  
The typographical aspect of the work is not very successful. The language in the thesis can be accepted.
- 6. Literature usage** **55 p. (E)**  
The amount of study resources is low. There are also missing relevant sources, which are current and contain an interesting sample solution. So I do not rate the selection as successful.
- 7. Implementation results** **60 p. (D)**  
The output reminds of some partial solutions of the research and development tools of the STRaDe team for the detection and localization of disease symptoms in fingerprints. Unfortunately, there was no significant improvement, if any. The summary of the results is not very commented and the pictures demonstrating the outputs also point to the failure of the detection mechanism. On the other hand, in some pictures the algorithms work and the pathology is detected correctly.
- 8. Utilizability of results**  
I see the usability of the results without improving methods as relatively low.
- 9. Questions for defence**
  - Can you explain how combining individual methods will help to improve detection and localization capabilities?
  - What happens if there are multiple manifestations of different skin diseases in the fingerprint?
- 10. Total assessment** **63 p. satisfactory (D)**  
While the results are not applicable in practice, they are a good basis for improvement. The text of the thesis is rather below average. The achieved experimental results are not convincing, but due to the higher difficulty of the assignment I propose an overall evaluation of the grade **D (63 points)**.

In Brno 19. August 2019

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