Review of Bachelor's Thesis

Student: Bartko Jakub
Title: People Detection Using Radar (id 24905)
Reviewer: Zemčík Pavel, prof. Dr. Ing., DCGM FIT BUT

1. Assignment complexity — **more demanding assignment**

The assignment has been one of the more complicated ones. The focus was on processing of the radar data and it required studies far beyond the standard content of bachelor studies at our faculty. Moreover, the work has been quite demanding from the point of view of the experimental effort necessary.

2. Completeness of assignment requirements — **assignment fulfilled**

To my opinion, the assingment has been fulfilled in full. I did not detect any significant deviations from the assignment.

3. Length of technical report — **in usual extent**

To my opinion, the text size is in the usual range. THe work has 46 pages plus 1 page of annex.

4. Presentation level of technical report — **85 p. (B)**

The level of presentation of the work is very good overall. Some points. however, are not that logical, e.g. CHapter 5, called "Dataset and Annotation", contains description of the equipment at the very beginning, the Conclusion is, to may opinion, rather evaluation of the results and it is way too long, etc.

5. Formal aspects of technical report — **85 p. (B)**

On the formal side, the work is nicely done and the outline is clean. To my opinion, the outline of the work reflected in the contents has too many chapters and Chapter 2 is, to my opinion, too short and it also contains too little number of sections (only one, in fact).

6. Literature usage — **90 p. (A)**

The list of references is quite extensive and also reasonable. However, some of the citations are incomplete, probably by a mistake, as an example, literature [9] "... In:. March 1960 ...".

7. Implementation results — **100 p. (A)**

The results of the work are nice and functional. The functionality has been demonstrated to me and I found it quite convincing. While not all the output has been perfect and while the presentation of the results is not always ideal, the result of the work is functiuonal and it provides solid output.

8. Utilizability of results

I believe that the results are quite useful and possibly, after some fine tuning,. it may be possible to use it in real applications, e.g. for pedestrian, cyclists, and trolleys detection.

9. Questions for defence

1) What is the range (maximum and minimum distance) in which detection of objects is efficient with this type of radar?

2) What is the precision of speed measurement using the radar (in the same setup that is suitable for object detection)?

10. Total assessment — **90 p. excellent (A)**

Overall, this is an excellent work. The text of the thesis is somewhat weaker part, although it is still very good, while the technical output of the work is, to my opinion, the strong part and it is excellent.

In Brno 2 June 2022

Zemčík Pavel, prof. Dr. Ing.
reviewer