

# Assessment of Bachelor's Thesis as a Supervisor

Title: **Konvoj na bázi kamery**

Author: **Vojtěch Nováček**

Supervisor: **Dr. Gaël Écorchard**

## **Fulfilment of Assigned Tasks**

The main part of the thesis consisted in adapting a teach-and-repeat method developed in our group to robot platooning, where following (repeating) robots would drive the same path as the leading robot during its movement rather than when the leading (teaching) robot finishes its movement. This part was accomplished by the student but the level of difficulty is rather low. The part of the thesis where the depth information of the features would be added to the algorithm was not done. Simulations and real experiments were carried out.

## **Resolution Methods**

The student appropriately based his work on an algorithm provided to him. The additional information messages required to drive two or more robots simultaneously instead of a separated repeating trajectory are reasonable and further work can be based on them.

## **Obtained Results**

The student presents both simulation results and real experiments. The results of the simulation are very good but I was missing plots showing the longitudinal and lateral deviations between the trajectories of the leader and the follower. Though some real-World experiments were carried out at the last moment by the student, quantitative results are completely missing. The reason for this was the lack of time, although the student already exploited the maximum time for the Bachelor assessment plus two prolongations. A few points in the thesis are unclear. At page 16, the student affirms that colinearity is assumed between segments, whereas only the continuity is assured. In this same sentence the reference to the condition on the navigation algorithm is unclear.

The source code provided by the student appears to be clear and well written. Some parts of the old code which were not used by the student are still present and should have been removed from the code.

## **Practical Requirements**

The thesis seems to be well written, although I cannot judge the correctness of the Czech language. There are quite a few typographical errors that could have been easily avoided by using the appropriate tools or by another proofreading. Proofreading could have also helped avoid missing words and repeated items in the list of conditions for the navigation algorithm page 3. The thesis is well presented thanks to the use of the L<sup>A</sup>T<sub>E</sub>X template provided by the University. The figures and tables are of very good quality.

The thesis is very short but this corresponds to the amount of results that the student had to show.

The list of references is correspondingly also very short but correctly formatted.

## **General Comments and Conclusion**

Working with Vojtěch was not always easy. The meetings were quite regular at the beginning of the work but a few times he didn't come to our planned meetings and didn't even write to excuse himself and agree on another meeting. A lot of times were the meetings not very fruitful because we had to solve some technical problems due to reinstallation of exploitation system in particular. I would expect on the opposite that the student would ask for a meeting to solve such problems and not that I would know about such problems in meetings organized by myself.

There is a total discrepancy between the total amount of time spent for this thesis and the amount of results, though the presented results are good.

As a conclusion, I advise the commission to evaluate the presented bachelor's thesis with the grade

**E - Sufficient.**

Prague, August 28, 2018

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