

I. IDENTIFICATION DATA

Thesis title:	Position estimation of a flying target from a camera onboard a UAV using visual tracking
Author's name:	Morhunenko Mykola
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Cybernetics
Thesis reviewer:	Ing. Matouš Vrba
Reviewer's department:	Multi-robot Systems group

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
The assignment required a combination of good technical skills for the practical implementation and integration with ROS and the MRS UAV system as well as a good theoretical understanding of the problem.	

Fulfilment of assignment	fulfilled
<i>How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.</i>	
After consultation with the supervisor, the student decided not to focus strongly on the visual tracking task and rather put more effort into the bearing-based estimation. Still, all tasks of the assignment were fulfilled sufficiently.	

Activity and independence when creating final thesis	A - excellent.
<i>Assess whether the student had a positive approach, whether the time limits were met, whether the conception was regularly consulted and whether the student was well prepared for the consultations. Assess the student's ability to work independently.</i>	
The student was proactive in solving problems encountered during the thesis and periodically consulted his progress with the supervisor.	

Technical level	B - very good.
<i>Is the thesis technically sound? How well did the student employ expertise in his/her field of study? Does the student explain clearly what he/she has done?</i>	
Some of the mathematical equations contain minor errors. Although these seem to be only mistakes from a lack of focus during writing and the final derived equations are correct, this reduces the clarity and readability of the text. Furthermore, the experiments could have provided a deeper insight into properties of the studied problem. On the other hand, I commend the student's ability to apply theoretical concepts from a state-of-the-art publication to extend the DKF estimator.	

Formal level and language level, scope of thesis	C - good.
<i>Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?</i>	
The text contains a larger number of grammatical mistakes, several sentences with missing verbs, extra commas, duplicated words, etc. Some mathematical symbols are used with different meanings in different contexts. Several sections are hard to read and confusing. Overall, the thesis could use a careful final proofread.	

Selection of sources, citation correctness

B - very good.

Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?

An adequate number of relevant works is cited, although the review of related works could be wider to better put the work into context. Formatting of the references is inconsistent and contains minor errors esp. regarding capitalization of letters.

Additional commentary and evaluation (optional)

Comment on the overall quality of the thesis, its novelty and its impact on the field, its strengths and weaknesses, the utility of the solution that is presented, the theoretical/formal level, the student's skillfulness, etc.

The attached code is not documented, but implementations of the relevant algorithms will be useful for further research of the MRS group.

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

Summarize your opinion on the thesis and explain your final grading.

Although I am satisfied with the student's work during the semester, the thesis would require at least another week to iron out the problems mentioned above. However, most of these problems are of minor significance. Therefore, I grade the thesis **B - very good**.

Date: 4.6.2024

Signature:

Matouš Vrba