CTU
CZECH TECHNICAL UNIVERSITY IN PRAGUE

THESIS REVIEWER'S REPORT

I. IDENTIFICATION DATA

Thesis title:	**Visual Localization of Mobile Robot**
Author's name:	**Vojtěch Pánek**
Type of thesis :	Master
Faculty/Institute:	Faculty of Electrical Engineering
Department:	Department of Cybernetics
Thesis reviewer:	Karel Košnar
Reviewer's department:	CIIRC

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment **Select: challenging**

How demanding was the assigned project?

Fulfilment of assignment **Select: fulfilled**

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.

All points of the assignment are fulfilled.

Methodology Grade: **A**

Comment on the correctness of the approach and/or the solution methods.

The state of the art is very well described and the selected methods are suitable for the problem. Selected methods are compared to each other on the datasets of the sufficient size. It will be good to provide a comparison with the state of the art method on publicly available datasets.

Technical level Grade: **A**

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?

The thesis is technically sound and the student proves the understanding of the robot localization. A prototype implementation in Matlab is followed by implementation in ROS. Provided source codes are commented.

Formal level and language level, scope of thesis Grade: **A**

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?

The thesis is well structured and the text is easy to follow, even there are strange sentences sometimes. The level of detail is sufficient for an understanding of the approach, even the method's description can be more elaborated (e.g. algorithm description in pseudocode) to increase the reproducibility. This is compensated by providing actual source codes.

Selection of sources, citation correctness Grade: **A**

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?

The number and selection of sources is very good.

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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.

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

The presented thesis is very good and I find no major flaws in it. It could be improved by comparing the proposed method with state of the art one on the publicly available dataset.

1. Did you try to use only the ceiling part of the image for localization?
2. Is there any part of the environment, where the robot gets lost more often (or where the localization works better)?

The grade that I award for the thesis is **A.**

Date: 31.8.2020

Name and signature:

Karel Košnar