Tomas Bata University in Zlín
Faculty of Applied Informatics

OPPONENT´S EVALUATION OF THE DIPLOMA THESIS

Student: **Bc. Dao Trong Nghia** **Opponent:** **Ing. Vít Štěpánek, Ph.D., DBA**

Study program: **Engineering Informatics**
Study discipline/Specialization: **Information Technologies**
Academic year: **2021/2022**

Thesis topic: **The Image Processing Algorithm for a 360 Degrees Camera**

Evaluation of the thesis:
Please enter your evaluation of the submitted work here. The report will focus on:

The topic of the work is highly actual. The current state of technology and knowledge in data processing encourages their application. The submitter acquaints with the current theoretical knowledge in image processing, especially the 360-degree camera. Points out possible defects in this camera's image and the interpreter of the observed scene. Outlines the image processing process and identifies vulnerabilities. The practical part acquaints the reader with the possibility of converting the video recording of two adjacent alleys in the tomato production greenhouse for further processing. He explains how to eliminate optical defects and illusions and use the OpenCV library for these purposes. Creates a demo environment in which he tests various methods for removing optical defects and compares the outputs of these measurements with theoretical expectations. The work formally meets all the set goals. However, the author could have paid more attention when working with resources. Some texts repeat the messages. Unfortunately, not in terms of the quality of the detected outputs. The author repeatedly moves from an engineered structured text to storytelling without a beneficial discovery. The work suffers from minor formal transgressions. These are but acceptable. The work does not contain source codes, and therefore it is not possible to verify its presented results. The topic offered was not, in my opinion, sufficiently used in work,
I evaluate the work with grade E, and I propose it for following evaluation. I ask the Commission to critically evaluate the student's contribution to the submitted work.
Questions: Can the author submit Python source code using the OpenCV library and demonstrate the findings by running this code?
On page 64, the author indicates that the camera speed during the data collection was constant. Explain how this could be achieved.
Why does the author solve the camera's vertical movement, which moves on a cart using metal rails?

Overall evaluation of the thesis:
The Opponent shall grant a mark according to the ECTS classification scale:
A – Excellent, B – Very Good, C – Good, D – Satisfactory, E – Sufficient, F – Insufficient
An "F" grade also means "I do not recommend the thesis for defence."

I recommend this thesis to be defended and suggest the following evaluation:
E - Sufficient

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In the case of an evaluation grade of "F – Insufficient", please supply the main shortages and reasons for this assessment.

Date: 1. 6. 2022 Thesis Opponent's Signature: