

I. IDENTIFICATION DATA

Thesis title:	Design of an Electromagnetic Gripper for Unmanned Aerial Vehicles
Author's name:	Ashwin Suresh Nedungadi
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Electroenergetics
Thesis reviewer:	Ing. Martin Macaš, Ph.D.
Reviewer's department:	Czech Institute of Informatics, Robotics and Cybernetics

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>How demanding was the assigned project?</i>	
<p>The project required various skills from different disciplines. The need for final integration into the real UAV always brings many obstacles. I find this project quite challenging for bachelor thesis level.</p>	

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>	
<p>A novel magnetic based grasping mechanism has been designed and tested with real test bricks, the feedback system solution was chosen and implemented, the gripper system was also implemented and integrated with ROS and, based on delivered videos, it is evident that the outdoor tests with real experimental data were performed. The assignment was completely fulfilled.</p>	

Methodology	correct
<i>Comment on the correctness of the approach and/or the solution methods.</i>	
<p>I appreciate that the student compared three potential designs of the gripping system including his own proposal. Similarly, three approaches for the feedback system providing information about the result of grasping were compared and a final system hybridizing two of them was proposed.</p>	

Technical level	A - excellent.
<i>Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?</i>	
<p>From the technical perspective, the thesis clearly and correctly describes various components of the proposed system. Knowledge about sensors, control, and programming had to be combined and the thesis, although being of bachelor type, reached diploma thesis level.</p>	

Formal and language level, scope of thesis**A - excellent.**

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 written in a clear and high level English. Its organization follows the goals, which makes the reading easy and worth.

Selection of sources, citation correctness**A - excellent.**

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?

More than fifty references and the fact that the citations are correct and relevant prove that the student has a good insight into the topic.

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

Finally, I would like to conclude that the student has proven his ability to solve a challenging engineering task. In particular, I must appreciate the form of the thesis because it does not contain any unnecessary text, is very clear, well organized and understandable.

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

Date: **25.1.2019**

Signature: Ing. Martin Macaš, Ph.D.