

I. IDENTIFICATION DATA

Thesis name:	Image Recognition with Deep Learning for Web Scrapped Images
Author's name:	Ahmed Mohamed Alaa Essameldin Toubar
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	U12110
Thesis supervisor:	doc. Ing. Ivo Bukovský Ph.D.
Supervisor's department:	U12110

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	extraordinarily challenging
<i>Evaluation of thesis difficulty of assignment.</i>	
<p>This assignment has been made according to the personal interest of Mr. Toubar, who displayed serious motivation to study and apply Deep Learning (DL) to image recognition. This is first deep learning thesis in our department, and this new concept in artificial intelligence is very complex and requires comprehension of many relevant issues.</p> <p>The main purpose of the thesis was not to make perfect deep learning application, but the purpose was to make Mr. Toubar to pioneer the use of (DL) and understand basic principles and apply it with some already existing tool.</p>	

Satisfaction of assignment	fulfilled with major objections
<i>Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.</i>	
<p>From the official assignment, tasks 1)-3) are satisfactory, though the task 3) was a subject of previous project and it is not the main point of the thesis.</p> <p>Points 4)-5) are focused on getting familiar and applying deep learning on collected images.</p> <p>Mr. Toubar was able to grasp fundamental principles of DL (Deep Learning); however, he was able only apply the Tensor Flow on MLP neural network, which is not truly the deep learning. Furthermore, Mr. Toubar merely applied Tensor Flow on an introductory "Hello Word" example that exists on the web. As regards 4), Mr. Toubar has not applied DL nor the MLP NN in the Tensor Flow slow on his own data sets. I agree with Mr. Toubar's argument, that proper application of DL exceeds the scope of bachelor's thesis, nevertheless, I insisted on that Mr. Toubar applies (not designs) the DL on his own data sets, just to demonstrate he has become familiar with the tool and is able to use it. Unfortunately this has not appeared in the thesis.</p>	

Activity and independence when creating final thesis	D - satisfactory.
<i>Assess that student had positive approach, time limits were met, conception was regularly consulted and was well prepared for consultations. Assess student's ability to work independently.</i>	
<p>Mr. Toubar worked independently and showed positive approach, yet he attended consultations in a minimum necessary amount. I think that Mr. Toubar should have reserved more time to working on his thesis – this is also apparent on impatient (in hurry) made thesis (commented below).</p>	

Technical level	E - sufficient.
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
<p>Mr. Toubar made some progress and he certainly displayed capability to learn and apply the required methods, though the results are marginal and the technical writing of his thesis is even worse than marginal. Instead of focusing on important topics related to the assignment the thesis contains much of irrelevant and flawed text (as general writing about AI etc...) and images (a graph of line, logo of Python, structure of html empty page).</p> <p>On the other hand, the thesis contains some useful material about DL and the use of Tensor Flow, that might help further students interested in the topic. The section/attachment? on page 46 rises many doubts (also, there are problems with terminology, e.g. "predicting" the image)</p>	

Formal and language level, scope of thesis	F - failed.
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
The thesis is poorly formatted with lots of white spaces and useless images or pieces of code as large images. There are many grammar mistakes and some sentences are incomplete, missing verbs, etc... The section 2.4.1 is an empty section.	
Selection of sources, citation correctness	C - good.
<i>Sources</i>	
The cited resources are extensive and the relevant. The citations in text are incorrectly located after the comma and not within the sentences they belong to...	
Additional commentary and evaluation	
<i>Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.</i>	
Considering this is the Bachelor's thesis, I see that Mr. Toubar has got familiar with the principle of DL; however, the demonstration and application on the own data set in thesis is under satisfactory level .	

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

The objectives are marginally satisfied – the implementation of DL or at least MLP NN in already existing tool has not been done in the own dataset.

My questions for the defense are:

- 1) Summarize a missing section 2.4.1 in one slide
- 2) Are you able to apply deep learning in Tensor Flow at least on a limited dataset of yours collected images as it was the main objective of the thesis? Please, demonstrate that you are able to use it (show it on your data) even if the results is not perfectly working yet.

In case the above questions are satisfactorily answered and proved, I evaluate handed thesis with classification grade **E - sufficient**.

Date: **23.6.2017**

Signature: Ivo Bukovsky