I. IDENTIFICATION DATA

Thesis name:	**Detection and Localization of Texture-less Objects with Deep Neural Networks**
Author's name:	**Pavel Haluza**
Type of thesis :	bachelor
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Cybernetics
Thesis reviewer:	Joni-Kristian Kämäräinen
Reviewer's department:	Laboratory of Signal Processing, Tampere University of Technology, Finland

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment — **challenging**

Evaluation of thesis difficulty of assignment.

The tool used in the thesis is a state-of-the-art method for visual object detection and despite the fact that source code is available along with many scientific papers the software is still experimental and many things need to learned just by trying or reading from source code.

Satisfaction of assignment — **fulfilled**

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 think that the conducted work, many additional details that were not mentioned in the assignment and the well-written report well fulfill the requirements.

Method of conception — **correct**

Assess that student has chosen correct approach or solution methods.

Despite the fact that the two approaches (R-CNN and YOLO) were given in the assignment, the candidate ends up with only one of them (R-CNN) which is well justified as YOLO has some less favorable properties.

Technical level — **B - very good.**

Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.

Use of literature is very good and in many parts the thesis fulfills the requirements of scientific work and what would be expected in PhD thesis. All discussion of the selected methods and parameter settings are concise and well justified.

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

Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.

While the topic is challenging thesis scope was nicely restricted to graspable set of research questions. English language in this work is exceptionally good and easy to read and follow.

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

Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.

Usage of citations is very justified, very relevant and up-to-date.

Additional commentary and evaluation

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.

This is exceptionally good piece of work – the topic is very timely and corresponds to not that explored research problem in computer vision. The candidate approached the problem very nicely, made important experiments and reported them very well.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation. Please present apt questions which student should answer during defense.

I evaluate handed thesis with classification grade A - excellent.

Date: **08/06/2017**   Signature: