

**I. IDENTIFICATION DATA**

<b>Thesis name:</b>	<b>Multilingual Speech Recognition for Selected West-European Languages</b>
<b>Author's name:</b>	<b>Bc. Gloria Maria Montoya Gomez</b>
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering (FEE)
<b>Department:</b>	Department of Circuit Theory
<b>Thesis supervisor:</b>	Doc. Ing. Petr Pollák, CSc.
<b>Supervisor's department:</b>	Department of Circuit Theory

**II. EVALUATION OF INDIVIDUAL CRITERIA**

<b>Assignment</b>	<b>challenging</b>
<i>Evaluation of thesis difficulty of assignment.</i>	
Assignment was surely challenging, because it was necessary to manage rather wide theoretical background of speech recognition including interdisciplinary topics from the field of phonetics for particular languages. The implementation of recognizer using KALDI toolkit is also not so straightforward, because it requires advanced programming skills and good knowledge of used algorithms. Without such skills the correct realization of any recognizer is not possible.	

<b>Satisfaction of assignment</b>	<b>fulfilled</b>
<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>	
Assignment was fulfilled in all points, the author created a basic version of multilingual recognizer for four languages, which is based on GMM-HMM architecture. She unified phonetic representation of included languages and created the system prepared for easy inclusion of other languages with available data. Within the realized experimental part she obtained the results related to the current state-of-the-art, which confirmed correctness of the presented solution.	

<b>Activity and independence when creating final thesis</b>	<b>A - excellent.</b>
<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>	
Student had very positive approach to the work on the thesis. She was very active; she consulted problems and progress of the work regularly, minimum once a week, sometimes. She always came well prepared for consultations with precisely prepared questions related to the met problem. Between regular consultations she worked very independently, many problems were solved completely by her without further assistance, and she always came with a significant progress in her work.	

<b>Technical level</b>	<b>A - excellent.</b>
<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>	
Student managed the most important theoretical knowledge of solved problem as well as the technical part including the preparation of necessary language-dependent inputs to recognition system. I would like to emphasize that she did not have any previous experience with any of the above mentioned skills related to very different fields, such as acoustic analysis of speech, stochastic modelling, phonetics and linguistics for selected languages, KALDI toolkit, or general programming in Linux including the processing at Linux parallel computation cluster. Concerning this fact, the presented work satisfies the level of diploma thesis without any doubt.	

<b>Formal and language level, scope of thesis</b>	<b>B - very good.</b>
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
Concerning the formal level of presented work, it was slightly more difficult for the author to find the proper way how to write about realized work. Of course, we discussed it also during our consultations; however, everything was not completely incorporated into the final report especially due to missing time before the delivery of the work. Nevertheless, formal level of the work is quite good.	

**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.*

Author cites the primary sources. She studied carefully all recommended sources, she realized sufficient review of current state-of-the-art, and many of the sources were found by her, especially those ones which were related to practical implementation.

**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.*

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**III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION**

*Summarize thesis aspects that swayed your final evaluation.*

I classify the handed diploma thesis as very good and on the basis of above mentioned notes I evaluate it with classification grade **A - excellent.**

Date: **8.6.2018**

Signature: