GJØVIK UNIVERSITY COLLEGE
FACULTY OF COMPUTER SCIENCE
AND MEDIA TECHNOLOGY

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Review of the doctoral thesis of Dana Lodrova

Dear Mrs. Nesvedova,

It is my pleasure to accept your invitation and to express my appreciation on the doctoral thesis of Dana Lodrova.

I have followed the research of the candidate since summer 2008 and consider the topic addresses in the presented thesis as appropriate. Mrs. Lodrova has addressed with her work challenging problems in the area of Biometrics. Her work was based on a good overview of the present level of knowledge and her thesis is a contribution, to progress the field of fingerprint recognition and to decrease the deficiencies of currently deployed fingerprint recognition systems.

I have reviewed the thesis with great interest. The thesis provides a significant contribution to the research in the field of Fingerprint Recognition. I consider the work to be original. Researchers in our area have followed upon her work and cited her publications. Moreover her publications on the topic of semantic conformance testing (Chapter 5 of the thesis) provided a significant input to international standards in the field - namely to the progression of ISO/IEC 29109-2 AMD1, which is currently developed in the ISO/IEC JTC1 SC37 WG3 under the project title "Conformance testing methodology for biometric data interchange formats defined in ISO/IEC 19794 — Part 2: Finger minutiae data – Amendment 1: Level 3 conformance testing for finger minutiae data". As I am chairing the Working Group 3, I can confirm that her contribution was much appreciated and constitutes an essential part of that respective standard. I consider this as the specific value of her contribution.

A second focus point of her thesis is on liveness detection (Chapter 4) and thus on a security evaluation topic that is of major concern to operators of biometric systems – specifically in unsupervised environments. Over the last 10 years an increasing number of publications has concentrated on this field. And again a standardization activity has started for this topic with the

project ISO/IEC 30107 "Presentation Attack Detection". The concurrent development of this standard verifies the relevance of her work. Again the citation list on page 146 in her thesis indicates that her publications are of value to the community.

In general one can assess that Dana Lodrova has published her work intensively on acknowledged international conferences and in journals. Furthermore she has contributed to book chapters and I can conclude that the publication activity is on an appropriate level. The list of publications is indicating an outstanding research erudition.

This thesis shows good results with potential impact on industrial solutions – specifically for unsupervised applications and for open interoperable systems. The thesis document is well written and easy to follow.

In conclusion I can state that in my opinion the doctoral thesis meets the requirements of the proceedings leading to PhD title conferment.

Date: 2013-03-01

Signature: 

Prof. Dr. Christoph Busch
(Norwegian Biometrics Laboratory)