

Review of a Doctoral Thesis at FIT BUT

Doctoral thesis (hereinafter referred to as "thesis"), title of the thesis: CONNECTION OF ALGORITHMS FOR REMOVAL OF INFLUENCE OF SKIN DISEASES ON THE PROCESS FOR FINGERPRINT RECOGNITION.

Name of the doctoral student (hereinafter referred to as "student"), name and surname:

MONA HEIDARI

Name and institution of the reviewer (full name of the reviewer, full name and country of the institution):

Prof. Dr. Mohammad Derawi
Head of Smart Wireless Systems (SWS) Research Group
Scientific Director of the IoT-Lab, NTNU Gjøvik
Norwegian University of Science and Technology (NTNU)

Please state your opinion on the following aspects of (I) the student's thesis and (II) the student's overall achievements, and (III) state your conclusion (a minimum of approx. 300 characters for each item below is recommended):

I. Thesis

Appropriateness and relevance

Is the area addressed by the thesis appropriate to the particular scientific discipline of the thesis and does the thesis address relevant problems within the chosen area?

The research area identified and the problems addressed by the candidate are relevant and significant.

A summary of the contributions of the thesis

From your point of view, please summarize what the goal of the thesis is, what the main contributions of the thesis are, and whether the thesis has achieved the chosen goal.

Please indicate also specific contributions of the student.

The candidate has presented research work in five chapters. The work is novel and contributory in nature. It is acceptable in its present form.

Novelty and significance:

Please assess the level of novelty of the results and their significance for the given scientific area, for its further development, and if applicable for possible applications in practice.

The candidate has discussed about the research methodologies used in the conducted studies and to address the research objectives. Presented methodology is satisfactory and novel in nature.

Evaluation of the formal aspects of the thesis:

Please evaluate formal qualities of thesis and its language level.

The thesis is well structured, the flow is clear and encourages readability. The language level is fine.

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Quality of publications

Has the core of the thesis been published at an appropriate level? Please judge the quantity and quality of the publications. When judging the quality, please take into account internationally recognized standards (WoS/Scopus quartiles, CORE ranks, specific knowledge of flagship publication channels of agiven community, etc.) in a way appropriate for the given area of the thesis.

The quantity and quality of the publication carried out of this research work is satisfactory and well recognized at International Level. One of the published papers presents a new approach to detection and classification of skin diseases in fingerprints using Thinning Algorithm, Thresholding, Block Orientation Field. The experimental results show the method is obtained from combination of the mentioned algorithms and is able to show the damaged areas in fingerprints.

II. Student's overall achievements

Overall R&D activities evaluation:

Does the student's thesis, the results included into it, and possible other scientific achievements listed in the list of scientific activities indicate that he/she is a person with scientific erudition and creative abilities?

Based on the research work carried out in this Thesis, it can be well assessed that the candidate is a person with scientific erudition and creative abilities. Deep and thorough knowledge along with intuitive interpretation of the problem statement is well indicated.

Assessment of other characteristics (optional):

More characteristics of the student may be added here (e.g., awards, grant participation, international collaboration, etc.).

III. Conclusion

The conclusion should contain an explicit statement saying whether, in your opinion, the thesis and the student's achievements until now meet the generally accepted requirements for the award of an academic degree (in accordance with Section 47 of Act No. 111/1998 Coll., on higher education institution).*

* Short overview of both the Act and corresponding internal BUT regulations is enclosed.

I state that the thesis and the student's achievements meet the generally accepted requirements for the award of an academic degree and that all requirements are seen to have been met for this purpose.

Gjøvik 25.10.2023