Lappeenranta University of Technology
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OPPONENT REVIEW FOR THE REPORT: THE ROLE OF INTELLIGENT COMPUTING IN FAULT DETECTION OF PRINTED CIRCUIT BOARDS

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1 GENERAL REVIEW

In his work Joni Herttuainen attempted to summarize modern methods used for detection of defects and faults in printed circuit boards production. The reasoning why the problem is important has been presented clearly. The report is well structured, easy to understand and read. Four different methods were described for PCB fault detection that were developed in recent years. Also, author covered three main targets of inspection.

This work could be useful for students who study Machine Vision and want to deeper understand possible applications of machine vision systems. The report may also can be suitable for researchers who start to work on topic of circuit board visual inspection.

Although, Joni covered several methods for PCB fault detection in concise manner, the article can still be improved by adding more examples and details for each of the methods. Some of the techniques are introduced without an explanation so it would be hard to understand all presented concepts without strong background. The article may also benefit from adding more information about the results of each of the presented methods.

2 EVALUATION

The evaluation according to the Master Thesis criteria is given in the Table 1.

Table 1. Evaluation and grading.

Criteria	**Grade**
Definition of research problem, objectives, and delimitations.	5
Research approach, methods and materials.	5
Utilization of existing research knowledge.	4
Systematic and responsible execution of the project.	4
Logic and credibility of the interpretation of the results and the conclusions.	4
Usability of the results.	4
Readability, presentation and language of the report.	4
Criteria	4