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Project Title: Machine Learning Based Approach for Soldering Defect Identification in Electronic Manufacturing	
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CONSENT

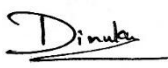
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- **That the work has not been accepted in any previous application for a degree.**
- **All sources of information have been specifically acknowledged and all verbatim extracts are distinguished by quotation marks.**

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Keywords

Current consumption, Soldering defect, Classification algorithm

Abstract

Inspection of soldering quality has been a vital process in the electronic manufacturing industry to improve yield, reduce cost of manufacturing and make sure product reliability and quality. Soldering defect identification is more challenging task in electronic manufacturing industries because variableness in the appearance of solder defects. Even though numerous research works have been developed to identify defects in soldering, these systems have complex techniques.

This dissertation proposes to make an intelligence system to identify soldering defect based on internal current consumption of the electronic device. Current consumption of an active electronic device is always varied within a distribution because of the internal tolerances in components used make it. however, when there is a soldering failure, the current consumption value is apart from the normal condition. That concept is used in this research to train a machine learning model as a defect classification algorithm.

Proposed new system in this research include an automated and low-cost soldering defect identification system.