

國立清華大學

碩士論文

自動光學檢測系統的演算法改良

**An Algorithm improve on AOI System**

系所別：資訊系統與應用研究所碩士班

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感謝...



# Acknowledgements

I'm glad to thank...





# 摘要

在工業檢測的場合中，自動化影像辨識技術日漸成為一個重要的應用，而現成的影像處理軟體與演算法通常有授權費過高，且準確度與分析速度並不符合產線的預算與需求，對此問題，我們希望可以找到一個低成本的解決方案，同時滿足產線對於分析速度的需求。本研究所實作出的產品檢驗流程可以粗略分為兩步驟，第一步驟為樣板設定，此步驟會紀錄標準的產品特徵；第二步驟為樣本檢驗，此步驟會將樣本與第一步驟所記錄下的樣本進行比對，並判斷此背光鍵盤是否有瑕疵或故障。本論文主要討論自動化光學檢測系統及分析演算法的設計架構與分析過程中的演算法比較並加以改良。並在最後將嘗試過的各種方法以產線實際運作的標準下進行比較。

並在最後將嘗試過的各種方法在產線的標準下進行比較。



# **Abstract**

In the industrial production site



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# Chapter 1

## Introduction

### 1.1 Motivation

««««< HEAD Since the cost of existing software solution is too high, and has little flexibility while tuning algorithms. The

#### 1.1.1 Previous Solution

add previous work here.

### 1.2 Related Works

add referenced paper here and write some comment

### 1.3 Goal

Design a system that is both cost efficient and time efficient. Could identify lettering defect and LED light defect on keyboard. ===== High-tech tools are prevalent nowadays and many of our daily are now routinely performed with computers. People write articles with computers; people draw diagrams with computers; people, of course, design programs with computers. Among our various usages of computers, one of them is music composition. For the purpose of storing and visualizing musicians' creation, the

standard western musical score, which contains information pertaining to how a piece of music should be played, has been used for hundreds of years and around the globe. However, the score was designed for human beings instead of computers, and most of scores are scanned and stored as images, which means nothing but lots of pixels for computers. In other words, these scores are not yet symbolically represented. Therefore, the concern of this dissertation is *optical music recognition* (OMR), which refers to the development of methods that automatically convert score images into their symbolic representation.

## **1.4 Goal**

Design a software that converts a score image (.png / .jpeg / .bmp / .pdf) into its symbolic representation encoded in a format that is readable by a computer such as MusicXML.

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## **1.5 Divide and Conquer**

### **1.5.1 Main Contribution of This Dissertation**

**Reducing the Difficulty of Problems**

**Independence of Subproblems**

**Parallelism**

## **Chapter 2**

### **Discussion**



## References