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VIETNAM GENERAL CONFEDERATION OF LABOUR

**TON DUC THANG UNIVERSITY**

**FACULTY OF ELECTRICAL ELECTRONICS ENGINEERING**



**PHAM VAN C**

**TITLE**

**DOCTORAL DISSERTATION OF AUTOMATION AND CONTROL ENGINEERING**

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**TITLE**

**ABSTRACT**

(Time New Romans – 13)

**TÊN ĐỀ TÀI**

**TÓM TẮT**

(Time New Romans – 13)

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# ABBREVIATIONS

BDT Broadband Digital Terminal

FFT Fast Fourier Transform

MIMO Multi-Input Multi-Output

SGS School of Graduate Studies

TDTU Ton Duc Thang University

# INTRODUCTION

## Motivation of research topic

## Target implementation

## Object and scope of the study

## Research methods

## Applications of the thesis

# OVERVIEW

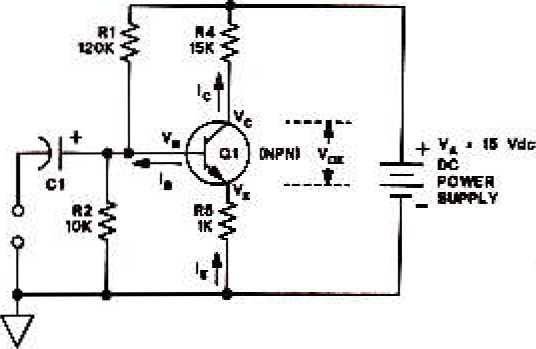
## Introduction

Among existing works, there are a few control algorithms that are deployed to the practical environment whereas the others are often implemented through computer simulations. It is more challenging to find out papers (Richards, 1997; Simon, Smith & West, 2009).

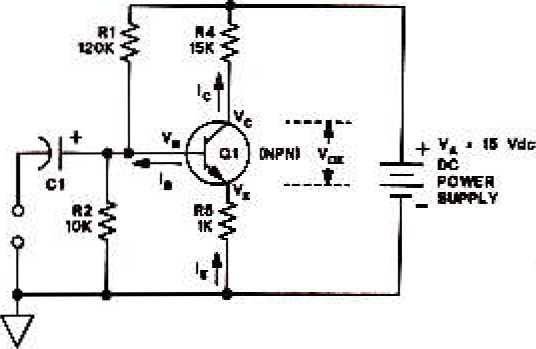
### *Subsection*

### *Footer*

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**Figure 2.1: General amplifier circuit E**



**Figure 2.2: Separate amplifier circuit E**

## General principles

### *List of Tables*

### *2.2.1.1 Example of Table 1*

Table 2.1: The parameters of the proposed model

|  |  |  |  |
| --- | --- | --- | --- |
| **Layer** | **Kernel/Size** | **Output** | **Stride** |
| Input | --- | 300×40×3 | --- |
| CNN | 3×3 | 298×38×128 | 1×1 |
| Max-Pool | 2×4 | 149×9×128 | 2×4 |
| DCNN1 | 3×3 | 149×9×256 | --- |
| DCNN2 | 3×3 | 149×9×256 | --- |

### *2.2.1.2 Example of Table 2*

Table 2.2: The comparison of accuracy on the Emo-DB dataset

|  |  |  |
| --- | --- | --- |
| **Model** | **Loss function** | **Accuracy** |
| ACRNN | Center | 0.83 ± 0.03 |
| Proposed | 0.86 ± 0.01 |

### *Spelling errors*

### *Number of chapters*

# THEORETICAL BASIS

## Theoretical basis 1

The static coefficient of the 3-D log Mel-spectrograms is obtained following six steps as below:

* Firstly, the Mel scale frequency analysis (Huang *et al.*, 2001) was computed as:



where  is the Mel scale converted from the frequency . The lowest and highest frequencies were converted to 401.25 Mels and 2,835.00 Mels, respectively.

* Secondly,
* Thirdly,

## Theoretical basis 2

# RESEARCH METHOD

## Simulation modeling

## Simulation results

# DATA ANALYSIS

## Comment 1

## Comment 2

# CONCLUSION

## Conclusion

## Thesis development

# LIST OF PUBLICATIONS

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**APPENDIX**