SOUND CHARACTERIZING USING AI TECHNIQUE

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ABSTRACT

This study concentrated on how to characterize sound signal using AI (Artificial Intelligence) technique. The software implemented was MATLAB Fuzzy Toolbox and MATLAB Simulink based on MATLAB 6.5 version. The sound or signal generated by the signal generator will be classified using simulation model developed in the MATLAB Simulink. The output result will be displayed in numerical form represented the frequency division e.g. VLF, LF, and MF etc.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter introduces the implementation of Artificial Intelligence (AI) using Fuzzy Logic technique to characterize the sound. The sound being classify involved Ultrasound Level and the simulation model was developed in MATLAB Simulink to integrate with MATLAB Fuzzy Logic Toolbox and produce the characterized output value in numeric form.

1.1 Background of Project

AI may define as the branch of computer science that is concerned with the automation of intelligence behavior. The principle include the data structure used in knowledge representation, the algorithms needed to apply that knowledge, and the languages and programming technique used in their implementation. AI is still young discipline, and its structure, concern, method are less clearly defined than those of a more mature science such as physics. For the time being it is simply defined as the collection of problem and methodologies studied by AI researchers [1]. The AI include as in science that concerns itself with a certain set of problem and developed a particular body of technique for approaching these problem. One of the techniques in AI is fuzzy logic.

Fuzzy modeling is another new modeling for nonlinear system. Compare with conventional modeling technique it only utilized numerical data. The fuzzy