

# **FORECASTING LOAD DEMAND USING ARTIFICIAL NEURAL NETWORK (ANN)**

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## **ABSTRACT**

Recently, Artificial Neural Network is widely used in intelligent computational technology for data compression, pattern recognition and machine learning. This paper presents the development of artificial neural network (ANN) using Back-propagation to forecast the load demand at Maintenance Building at UiTM Shah Alam campus. The data is taken from the Maintenance Department that has installed remote metering system. The programme was developed using Borland C++ version 5.02.

### **Keywords**

*Artificial Neural Network (ANN), Back-propagation algorithm and load forecasting.*

# TABLES OF CONTENTS

CHAPTER	DESCRIPTION	PAGE
<b>1</b>	<b>INTRODUCTION</b>	
	1. 1 Introduction	1
	1.2 Methodology	2
<b>2</b>	<b>REMOTE METERING</b>	
	2.1 Introduction	3
	2.2 Remote Metering Communication Techniques	4
	2.2.1 Customer Interface	4
	2.2.2 Data Recording	5
	2.3 Metering Functions	7
	2.3.1 Data Recording	7
	2.3.2 Total Consumption	7
	2.3.3 Time of Use Metering	7
	2.3.4 Peak Demand Metering	8
	2.3.5 Load Survey	8
	2.3.6 Power Outage Recording	8
<b>3</b>	<b>LOAD DEMAND</b>	
	3.1 Introduction	9
	3.2 Dynamic or Flexible Pricing	11
	3.2.1 Variable Energy Cost (VEC)	
	Structure of a Utility	14
	3.3 Pricing or Cost of Load Demand	16
	3.4 Reducing the Load Demand	19
	3.5 Load Demand Forecasting	20
	3.5.1 Load Forecasting Segmenting	21

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

An industrial country will consume all sorts energy sources to groom their economy. Electrical energy is the most commonly used in the developed country like Malaysia, efficient energy usage is called to promote economic growth.

UiTM, as a higher learning institution is also expanding its energy usage. In order to monitor the energy usage, UiTM has installed remote metering system. This system can measure and record the energy consumption data, remote from the meter. The data can also be retrieved from a Personal Computer. The data obtained can be converted or analysed to a useful information in the form of graphical and report output.

Artificial Neural Network is now widely being used in power system application. ANN models are based on the activity in the human brain such as learning, generalization, evaluation, recognition and complex control [1].

Load forecasting has become in recent years one of the major areas of research in electrical engineering, and most traditional forecasting models and artificial intelligence techniques have been tried out in this task. Artificial neural networks (ANNs) have lately received much attention, and a great number of papers have reported successful experiments and practical tests with them.

The importance of accurate forecasts in planning is that ensures the availability of supply of electricity, as well as providing the means of