Generating Fuzzy from Data

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Introduction
Fuzzy logic system technologies have continued to attract research interest especially those area on data mining. Nowadays databases can reach a certain range in size into GB (gigabytes) or even into TB (terabytes). Within these masses of data lies hidden information of strategic importance. But how do you draw meaningful conclusions in such a huge forest? One of the most effective solutions is data mining. Data mining is the process to extract useful and human understandable information from a large amount of rude data. It can be used both to increase revenues (though improves marketing) and too reduce costs (through detecting and preventing waste and fraud).

Worldwide organizations of all types are achieving measurable payoffs from this technology. In this final year project, we will design a program for generating a table of fuzzy rules from the existing data base by applying fuzzy logic technology. Table Look-up scheme is emphasized as a core algorithm to generate rules. MatLab is chosen to be the main platform for software implementation and maintenance. The objective is to develop a program to predict value by finding out the hidden relationship between the data base.
System Flow-Chart

Start

Input database file and recent 3 days Hang Sang Index

Fuzzifier

Look-up Table

Complete Fuzzy Rule Base

Inference Engine

Defuzzifier

Prediction Result of Hang Sang Index
**Result & Analysis**

Graph shows the prediction result with input data during 1/9/03 - 23/9/03

Graph shows the prediction result with input data during 1/11/05 - 24/11/05

Graph shows the prediction result with input data during 1/1/04 - 21/1/04