

ภาคผนวก

ภาคผนวก ก
ตัวอย่างชุดคำสั่ง Fuzzy

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function r_square = Rain(x)

clc

a=newfis('Rain');
a=addvar(a,'input','Temperature',[0 50]);
a=addmf(a,'input',1,'low','trimf',[0 20 29]);
a=addmf(a,'input',1,'medium','trimf',[28 35 39]);
a=addmf(a,'input',1,'high','trimf',[38 40 50]);
a=addvar(a,'input','Humidity',[0 100]);
a=addmf(a,'input',2,'Dry','trimf',[0 20 30]);
a=addmf(a,'input',2,'medium','trimf',[27 56 70]);
a=addmf(a,'input',2,'wet','trimf',[68 82 100]);
a=addvar(a,'input','Wind speed',[0 10]);
a=addmf(a,'input',3,'low','trimf',[0 1 2]);
a=addmf(a,'input',3,'medium','trimf',[1.8 2.7 4]);
a=addmf(a,'input',3,'very','trimf',[3.5 6 10]);
a=addvar(a,'output','Evaporation',[0 30]);
a=addmf(a,'output',1,'low','trimf',[0 1 3]);
a=addmf(a,'output',1,'medium','trimf',[2 20 25]);
a=addmf(a,'output',1,'very','trimf',[22 26 30]);

rulelist = load('RuleBase_Rain.txt');
a=addrule(a,rulelist);

data = load('Rain_Data.txt');
Temperature = data(:,5);
Humidity = data(:,6);
WindSpeed = data(:,2);

Rain_Model = evalfis([Temperature Humidity WindSpeed],a);
fprintf('Rain_Model = %0.5f\n',Rain_Model);
% fprintf('X = %0.5f\n',x);

Rain_data = data(:,1); % Rain Data

y_bar = mean(Rain_data);
y_del = Rain_data-y_bar;
y_del_square = y_del.^2;

x_bar = mean(Rain_Model);
x_del = Rain_Model-x_bar;
x_del_square = x_del.^2;

r = sum(y_del .* x_del)/sqrt(sum(x_del_square).*
sum(y_del_square));
r_square = r^2

```