Tutorial on Fuzzy Logic using MATLAB

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Outline

• Simulink
• Fuzzy Logic Toolbox
Simulink
Simulink – Building New Model

New Model

Simulink Library
Simulink – Building New Model

Continuous Library

Transfer Function
Simulink – Building New Model

Source Library

Step Function
Simulink – Building New Model

Add Function

Gain Function
Simulink – Building New Model
Simulink – Building New Model

![Simulink Library Browser](image-url)
Simulink – Building New Model
Simulink – Building New Model
Simulink – Building New Model

Fuzzy Logic Controller

FIS file or structure: [Blank]

OK Cancel Help Apply
Simulink - Building New Model

Multiplexer
Building New Model – Fuzzy Logic Controller

Antecedents → Fuzzy Logic Controller → Consequent
Fuzzy Logic Controller with Rule Viewer

• Implements a FIS with the Rule Viewer in Simulink
Simulink – Building New Model

derivative
Simulink – Building New Model
Simulink – Building New Model
FIS
fismatrix
fuzzyPD
ruleFigH

Command History

m = 180/(pi*G^2)
fuzzy
M = 0.5
m = 0.2