WID3007
Fuzzy Logic
Group Assignment

Group formation: 4 students per group
Date of submission: 11/1/24

Topic : Fuzzy Logic System

Description

You are required to:

1. Identify a real life problem that can be solve by implementing a fuzzy logic system.
2. Describe the problem in detail.
3. Identify the objective of your the fuzzy logic system
4. Design and implement a fuzzy logic system (Mamdani or Sugeno) to solve the problem, this include:
   a) Identify the inputs and outputs of the system
   b) Determine the fuzzification techniques
   c) Design the knowledge base
   d) Construct the inference engine
   e) Perform defuzzification
   f) Test the system with appropriate inputs

   Note: Python with skfuzzy should be used to implement the fuzzy logic system.

Presentation

1. Record a 15 minutes presentation for a group.
2. The presentation should include a description of the problem they want to solve, the objective of the system, the set of rules and the design of the whole system.
3. Demonstration of a working system.

Report

1. Describe the problem and objectives in detail.
2. Document the design of the fuzzy logic system.
3. Provide a few test run results
4. Font size of body text: 12
5. Length: not more then 6 pages.
6. Save the file in PDF form.

Submission

1. Zip both report and programme files and submit to Spectrum before the due date - submit files, not links!
   (0 mark for the whole assignment for every member in the group if link is submitted instead of the zip file)
2. For video presentation, record it and share me the link.
3. One submission per group.
4. For submissions after the due date, marks will be deducted based on the number of days late.