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Rename notebook

Copy of Fuzzy.py\_

[](https://accounts.google.com/SignOutOptions?hl=en&continue=https://colab.research.google.com/drive/1q1xLLSY0Mjujq-sJDlo0Tmg_FsMXPQUp%3Fts%3D6805208e&ec=GBRAqQM)

add code

add format\_size

Connect to a new runtime

Connect to a new runtime

Connect

arrow\_drop\_down

Additional connection options

expand\_less expand\_more

Toggle header visibility

format\_list\_bulleted

code

vpn\_key

folder

terminal

Notebook

more\_horiz

<hr size=2 width="100%" align=center>

spark Gemini

arrow\_upward

Move cell up

Ctrl+M K

arrow\_downward

Move cell down

Ctrl+M J

· Generate code

· Explain code

spark

Available AI features

link

Copy link to cell

comment

Add a comment

Ctrl+Alt+M

settings

Open editor settings

edit edit\_off

Edit

Mirror cell in tab

delete

Delete cell

Ctrl+M D

more\_vert

More cell actions

[ ]

Run cell (Ctrl+Enter)

cell has not been executed in this session

executed by Diamond Kondra

9:36 PM (22 minutes ago)

executed in 5.245s

#installing skfuzzy or scikit-fuzzy using pip

!pip install scikit-fuzzy

Code cell output actions

Collecting scikit-fuzzy

Downloading scikit\_fuzzy-0.5.0-py2.py3-none-any.whl.metadata (2.6 kB)

Downloading scikit\_fuzzy-0.5.0-py2.py3-none-any.whl (920 kB)

━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 920.8/920.8 kB 9.8 MB/s eta 0:00:00

Installing collected packages: scikit-fuzzy

Successfully installed scikit-fuzzy-0.5.0

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[ ]

Run cell (Ctrl+Enter)

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import numpy as np

import skfuzzy as fy

from skfuzzy import control as cl

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[ ]

Run cell (Ctrl+Enter)

cell has not been executed in this session

equipment\_efficiency=cl.Antecedent(np.arange(0,11,1),'efficiency')

equipment\_noise=cl.Antecedent(np.arange(0,11,1),'noise')

equipment\_failure=cl.Consequent(np.arange(0,26,1),'failure')

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spark Gemini

[ ]

Run cell (Ctrl+Enter)

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equipment\_efficiency.automf(3)

equipment\_noise.automf(3)

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spark Gemini

[ ]

Run cell (Ctrl+Enter)

cell has not been executed in this session

equipment\_failure['no']=fy.trimf(equipment\_failure.universe,[0,0,13])

equipment\_failure['about\_to\_fail']=fy.trimf(equipment\_failure.universe,[0,13,25])

equipment\_failure['fail']=fy.trimf(equipment\_failure.universe,[13,25,25])

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spark Gemini

[ ]

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executed by Diamond Kondra

9:36 PM (21 minutes ago)

executed in 2.258s

equipment\_efficiency['average'].view()

Code cell output actions

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[ ]

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executed by Diamond Kondra

Wednesday, April 16, 2025 (4 days ago)

executed in 0.453s

equipment\_noise['good'].view()

Code cell output actions

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[ ]

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#Rule Base

R1=cl.Rule(equipment\_efficiency['poor'] and equipment\_noise['poor'], equipment\_failure['fail'])

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[ ]

Run cell (Ctrl+Enter)

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R2=cl.Rule(equipment\_efficiency['poor'] and equipment\_noise['average'], equipment\_failure['about\_to\_fail'])

R3=cl.Rule(equipment\_efficiency['good'] and equipment\_noise['average'], equipment\_failure['no'])

R4=cl.Rule(equipment\_efficiency['good']  and equipment\_noise['poor'], equipment\_failure['about\_to\_fail'])

R5=cl.Rule(equipment\_efficiency['average'] and equipment\_noise['poor'], equipment\_failure['about\_to\_fail'])

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[ ]

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predict\_ctrl=cl.ControlSystem([R1,R2,R3,R4,R5])

failure=cl.ControlSystemSimulation(predict\_ctrl)

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[ ]

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executed by Diamond Kondra

9:42 PM (16 minutes ago)

executed in 0.016s

Code cell output actions

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