



Code:

# -\*- coding: utf-8 -\*-

"""

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"""

import numpy as np

size\_n = 5 # sample size of each timestamp

high\_n = 3 # number of node

time\_n = 4 # number of timestamp

# Generating data contains timestamp, sender number, receiver number

dt = []

for j in range(time\_n):

time = np.repeat(j, size\_n)

sender = np.random.randint(low = 0, high = high\_n, size = size\_n)

receiver = np.random.randint(low = 0, high = high\_n, size = size\_n)

for i in range(size\_n):

if sender[i] != receiver[i]:

dt.append([time[i], sender[i], receiver[i]])

data = np.array(dt)

# generating #node x #node zero matrix for A for each timestamp (time\_n)

A = np.zeros((time\_n, high\_n, high\_n))

# if sender sends a message to receiver, assign 1 otherwise 0 for each timestamp

for row in data:

A[row[0], row[1], row[2]] = 1

print(data)

print(A)