CS 6316 – In-Class Activity

Self-Organizing Maps

Logistics:

- Work individually or in pairs
- Type up your answers to the following questions and submit in PDF format
- Write the activity title, your name, and computing ID at the top of the submitted document
- If you worked in a pair, remember to include both your names and computing IDs at the top of the submitted document

Questions:

Answer the following questions and submit on Collab by the due date (see "*Submission*" section below)

1. Given the introduction to Self-Organizing Maps (SOMs) in lecture, write a brief summary in your own words about:
    - What are SOMs?
    - What are the components and architecture of a SOM?
    - What is/are the general purpose(s)/use(s) of a SOM
2. Research and describe one (1) problem that can be solved by SOMs. In your description include:
    - What is the problem being solved (problem description)?
    - What are the inputs? (Including dimension and complexity)
    - How can a SOM help this problem? / What is the motivation to use SOMs in this situation?
    - What does the output look like after using a SOM? (Describe briefly)
    - How is this output more useful/more appropriate? (Based on the given problem)
    - *Optional*: If you find some code you may include it in your report. This might help you explain the input data, the transformation of the data, and the resultant output of the system. Don't forget to cite your source!

Submission:

- Submit on Collab under the "*Assignments*" tab. (No min/max page limit expected)
- Everybody makes a submission (pairs can submit same document)
- Submit **by 11:30pm TONIGHT** (the day the in-class activity was issued)