

**Tuesday Feb 18, 2025**

In-class Handout

COSC 410A Applied Machine Learning

Prof. Forrest Davis

Name:

Discuss and complete the following questions with the person nearest you. You **may** be asked to share your thoughts with the class.

1. You have decided to build a neural network with 3 layers each using ReLU as the non-linear activation function. The input has 128 dimensions. Each layer halves the dimensions, so layer 1 has 64 nodes, layer 2 32 nodes, and layer 3 16 nodes. The aim is to classify an input into 4 outputs. Give the equation that represents this network, including relevant activation functions, and describe the shapes of each matrix or vector.