Advanced Biomedical Imaging and Processing (BMED-6102)

Instructor: Dawit Assefa Haile, PhD

**Exercises**

1. For the three layer ANN shown below,
2. Compute the output of the network for the given input and weight condition

X1=0.2 and x2=0.6,

Hidden layer weights and biases



Output layer wiegts and bias



1. Compute new weights if backpropagation algorithm is used for training and desired target is 1



1. Explain how a multi layer feed forward neural network can be used to model UFR. Explain the idea of back propagation in multilayer feedforward neural networks.
2. Explain how neural networks can be used for medical image segmentation.
3. Design a fuzzy logic controller to regulate blood glucose.
4. Explain how genetic algorithm can be used for medical image registration optimization.