COM 424 E: NEURAL NETWORKS
CAT 2: 30 marks
due Sunday 31st March 2024 at Midnight
email medynac@gmail.com

1. Compare the similarities of **artificial neural network** to a **biological neural system** in the human brain.   (2 marks)
2. Why is it important to separate **training** from **testing** data in supervised models?(2 marks)
3. What is **Type 1 Error** and **Type 2 Error** in a confusion matrix. Using an example explain each of the values in a confusion matrix.   (2 marks)
4. What is an **outliers**? What do you do when you have skewed data and outliers? (2 marks)
5. Why is it important to normalize data before feeding to a supervised NN.   (2 marks)
6. What is data cleaning? List TWO ways of dealing with missing values in datasets.(3 marks)
7. What is **overfitting**? What is **underfitting**? What happens to an over fitted model when it is deployed in the real world application.   (4 marks)
8. What is an ROC curve. Give TWO advantages of using ROC curve in healthcare datasets.(4 marks)
9. Deep learning has gained popularity in the recent years? Give one example where you would apply deep learning to solve the problem and why.   (4 marks)
10. What is **convolutional neural network**? How is it different from deep learning and neural network?   (5 marks)