**Discussion 8: Regression**

1. What is the difference between supervised and unsupervised machine learning?
2. What is the purpose of a validation set?
3. How many different classes does a logistic regression model predict? Can you give an example of a logistic regression model prediction?
4. What is the difference between a Random Forest model and a Classification and Regression Tree (CART) model?
5. What is the difference between a k-Nearest Neighbor (KNN) model and a Support Vector Machine (SVM) model? Does a KNN model represent supervised or unsupervised machine learning model?
6. In what way is a Perceptron model similar to a logistic regression model? In what way is a Perceptron model similar to a Neural Network model?
7. What inspired Neural Networks to be created (what does a Neural Network mimic with regards to humans)? Is the output of a Neural Network more or less interpretable than a regression model?
8. Why do we scale our data? Does this help or hinder the interpretability of our model?
9. Why use a confusion matrix? What information does it give an analyst that training, validation and testing accuracy doesn’t?