

# BUSA 511 – Assignment 3

Due – 02/15/2022 11:59 PM

1. Apple has announced that the new MacBook lasts 10 hours. Do the results from the battery life tests agree with the company's statement? <Assignment 3.xlsx (Battery life)> **(10)**
2. Compare the ages of employees at Microsoft and Tesla. What can you conclude? <Assignment 3.xlsx (Ages)> **(10)**
3. Evaluate if undergrad major has an impact on the careers chosen. <Assignment 3.xlsx (Careers)> **(10)**
4. Using the data provided in "Assignment 3.xlsx (Car prices)", answer the following questions.
  - 4.1. Which independent variable has the most significance for predicting **price**? **(20)**
  - 4.2. Develop the best possible multiple linear regression model for the data. **(30)**
  - 4.3. Use hold-out validation (100 -training, 50 – validation) and discuss your finding based on the value of the residuals. **(10)**
  - 4.4. Is developing piecewise linear regression model for the independent variable, mileage and dependent variable, price, useful? Why? **(10)**