

## CS 457 - Homework Assignment 4: Statistical Inference

Due Date: Monday, October 2 at 11:59 pm

### Purpose:

Demonstrate exploration of data via Hypothesis Testing methods using Python and tell interesting stories and insights around your statistical inferences.

**Points:** 100

Perform Hypothesis Testing to choose between Null and Alternative Hypothesis and provide justification to your decision with explanation.

1. If the MonthlyIncome of Males is greater than Females
2. If the WorkLifeBalance of Males is less than Females
3. If the YearsAtCompany of Single is less than Married
4. If the EnvironmentalSatisfaction of Attrition=Yes is less than Attrition=No
5. If the MonthlyIncome of Manager is greater than Laboratory Technician (Hint: Use JobRole to find Manager and Laboratory Technician)
6. Is there any association between the Department and Gender?

For each question, write Null and Alternative Hypothesis first. Then **interpret all the results with your final decision on Hypothesis Testing. No points will be given without explanation.**

**Deliverable:** Submit a ipynb file containing your code, outputs and explanations. Include homework title, your name and your email on top of your ipynb code file.