

## TDA3121 Data Analytics Fundamentals

### Group Assignment (30%)

#### Grouping

You are required to work in a team (Min/Maximum of 4 students) for this Group Assignment.

Objective: In this assignment, you will explore the process of data visualization using Pandas. You will have the opportunity to choose your own dataset to work with and apply two assigned visualization techniques to create graphical representations that effectively communicate the information.

Use the assigned visualization techniques to create graphical representations of the data. Customize your plots with appropriate labels, titles, and color schemes for better interpretation. Elaborate your findings based on the visualizations, explaining the trends, patterns, and key takeaways from the data.

Submit your Jupyter Notebook along with a brief summary of your findings based on the visualizations. Include any observations or insights you gained from the graphical representations of the dataset.

- Histogram
- Scatter Plot
- Heat Map
- Pie Chart
- Plot and Subplots
- Boxplot
- Correlation Matrix
- Area Chart
- Please discuss with me if you want to choose other visualization techniques

Please submit the analysis report before **29 August 2023**.

#### Important:

1. Must be an original work. Strictly NO copying.
2. No late submission is allowed.
3. **MUST use the cover page that has been prepared for you in this document for your report.**
4. Fill up the required details on the cover page.

# Faculty of Information Science and Technology (FIST)

# TDA3121 Data Analytics Fundamentals

Trimester 3 2022/2023

### Group Assignment (30%)

Due date: **29 August 2023**

No	Student Name	Student ID	Academic Program	Tutorial Session
1				
2				
3				
4				

### MARKING RUBRICS (30%)

	5	4	3	2	1	0
Relevant dataset						
Data Manipulation and Exploration						
Relevant Visualization Techniques						
Customization and Interpretation						
Code Quality						
Documentation						
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>TOTAL:</span> <span><b>/30</b></span> </div>						

**\*\*\*Marks Indication:**

<b>Relevant Dataset</b>	
The rationale for selecting the dataset is comprehensive and insightful, showcasing a deep understanding of its potential insights.	5
The rationale for dataset selection is presented, demonstrating a satisfactory understanding of its potential relevance.	4
The rationale for dataset selection is provided, though it lacks in-depth analysis.	3
The rationale for dataset selection is minimal and lacks substantive reasoning.	2
The dataset's significance and rationale for selection are lacking, demonstrating a limited understanding of the assignment's purpose.	1
The dataset and objectives are absent or inadequately addressed	0
<b>Data Manipulation and Exploration</b>	
Comprehensive exploration, unveiling intricate patterns and nuances within the data.	5
Dataset is well-manipulated, revealing insightful facets through exploration and analysis.	4
The dataset is explored to some extent, revealing basic insights and trends.	3
The dataset is minimally explored, yielding limited insights.	2
The dataset is minimally explored, with only basic observations made.	1
Data manipulation and exploration are absent or severely lacking	0
<b>Data Manipulation and Exploration</b>	
Visualizations are meticulously chosen and designed, showcasing an adept understanding of visualization principles and tools.	5
Visualizations are suitably chosen and well-constructed, indicating a solid grasp of visualization principles.	4
Visualizations contribute to the assignment's goals, albeit with room for improvement in selection and design.	3
Visualizations are basic and may not fully support the assignment's goals.	2
Visualizations are basic and may not effectively contribute to the assignment's goals.	1
inadequately employed, with no substantial attempt to visualize the data.	0
<b>Customization and Interpretation</b>	
Visualizations are thoroughly customized. Interpretations are comprehensive, showcasing deep insights into data trends, patterns, and outliers	5
Visualizations are moderately customized. Interpretations provide solid insights into data trends and patterns	4
Basic customization is applied to visualizations, enabling reasonable interpretation.	3
Customization of visualizations is minimal, with limited enhancement to aid interpretation	2
Visualizations lack customization and enhancements, hindering interpretation.	1
Customization of visualizations and interpretations are absent	0

<b>Code Quality</b>	
Code is exceptionally well-structured	5
Code is reasonably organized	4
Code organization is somewhat lacking but working	3
Code is disorganized with minimal effort with minimal working	2
Code is disorganized, with minimal effort and not working	1
Code is significantly incomplete	0
<b>Documentation.</b>	
Documentation is exemplary - provides comprehensive explanations, comments,	5
Documentation is well-presented -it includes adequate comments and explanations	4
Documentation is basic, providing some explanations and comments	3
Documentation is minimal and lacks substantive explanations or comments	2
Documentation is rudimentary with minimal comments or explanations	1
Documentation is absent or offers no insights	0

(TO BE FILLED BY STUDENTS)

**DECLARATION:**

We agree that all members deserve equal marks for this project. We confirm that we have contributed equally to produce an original report in our best effort.

Write down your ID (clearly) and sign (by all members):

Student ID: \_\_\_\_\_ Signature: \_\_\_\_\_

Student ID: \_\_\_\_\_ Signature: \_\_\_\_\_

Student ID: \_\_\_\_\_ Signature: \_\_\_\_\_

Student ID: \_\_\_\_\_ Signature: \_\_\_\_\_

Student ID: \_\_\_\_\_ Signature: \_\_\_\_\_

**Declaration by Group Leader**

I hereby declare that all group members' names are correctly included in the above section. I hold a copy of this assignment which I can produce if the original is lost or damaged. I certify that not part of this assignment has been copied from any other student's work or from any other source except where due acknowledgement is made in the assignment/project/etc.

Group Leader's Signature: \_\_\_\_\_

Group Leader's Name: \_\_\_\_\_

Group Leader's ID: \_\_\_\_\_

Date: \_\_\_\_\_

## Group Member's Declaration

(Each group member, including the group leader, must individually fill up and submit this form. This form has to be attached together with the assignment/ project submission.)

Group member's name: \_\_\_\_\_

Student ID: \_\_\_\_\_

For the purpose of completing this assignment, I have performed the following tasks:

This image shows a blank sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

I hereby declare that I have assessed the final submission and I take full responsibility should there be any inaccuracies, incompleteness, omissions, delays or non-submission.

Group member's signature: \_\_\_\_\_

Group member's name: \_\_\_\_\_

Group member's ID: \_\_\_\_\_

Date: \_\_\_\_\_

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[illegible]

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