Rubric: Forecasting Global Temperatures
DS 4002
Submission format: Submit link to GitHub repository on Canvas, submit hard copy in class

Individual Assignment

General Description: Submit a link to the GitHub repository of this assignment and a hard copy in class.

Preparatory Assignments: Class sessions on case studies and case studies from previous semesters.

Why am I doing this?
Analyzing case studies is very important because it helps us develop our critical and analytical thinking skills in the realm of data science. You will be able to come up with your own techniques to find results without many concrete directions (the materials provided are meant to help guide you, but you may use your own methods). You will learn how to take a real-life problem and come up with results that will affect the perceptions of the general public. You will be able to experience what a real data scientist does.

What am I going to do?
You will read the one-page prompt titled "Forecasting Global Temperatures" to understand the problem you must solve. As you read this document, think about your analysis plan and what kind of modeling method you will use. Do not forget to reference the supplemental materials provided if you are unsure what kind of forecasting model to use. Clean the data and remove any variables you do not think are required for analysis. You will then perform your analysis through a model that can forecast data. Find out which variable will change the most in the future. Construct a metric that will assess the model and verify that the results are accurate. Then, write a short paragraph summarizing your findings, why they are important, how they could affect our future actions, and how they could affect public perception on climate change.

Tips for success:
- Take your time reading the prompt and thinking of possible solutions before jumping right into the analysis.
- Keep an open mind, there may be variables that are important later in your analysis that you may not think about initially.
- Don't limit your thinking to one possible solution. There are several methods to achieve the solutions to this problem, explore them creatively.
- Have fun and be creative!

How will I know I have Succeeded? You will meet expectations on this assignment when you follow the criteria in the rubric below.

Spec Category	Spec Details
Formatting	Repository – Create a GitHub repository for this assignment containing: - README.md - LICENSE (use MIT as default) - SRC folder - Figures folder - Writeup folder Use PDF format for documents, and appropriate formats for code deliverables

README.md	Goal: This file serves as a quick summary of what to expect in your repository. It should be easily readable and understandable.
	- Use markdown headers to divide content
	- Data section:
	  - Data dictionary explaining the data that you used.
	- Figures section:
	  - Table of contents summarizing the figures and your takeaways from them.
	- Summary section:
	  - Summarize your findings and possible effects in 1-2 sentences.
	- References section:
	  - A list of your references in IEEE format.

LICENSE	Goal: This file explains to a visitor the terms under which they may use and cite your repository. - Select an appropriate license from the GitHub options list on repository creation, usually, the MIT license is appropriate.
SRC Folder	Goal: This folder contains all the source code for your project. - Include all code files you produce.
Figures Folder	Goal: This folder contains all of the figures generated by your project - Include all figures you produce.
Writeup Folder	Goal: This folder contains a document summarizing your findings, why they are important, how they could affect our future actions, and how they could affect public perception on climate change. - Include a PDF file with a summary paragraph.