**IST-687-INTRODUCTION TO DATA SCIENCE**

Dear Professor,

Please find below the **order** and **instructions** to access the files in the energy prediction folder:

**1. Final Project Report**

* **File:** IST687-ProjectReport-Group04.docx
* **Action:**  
  Start by reading this Word document first. It explains the entire project, including the introduction, project goals, data workflow, model building, Shiny app structure, interpretations, and recommendations.
* **Optional Backup:**
  + **File:** IST687-ProjectReport-Group04.pdf
  + Same project report, but in PDF format if you prefer easier reading.

**2. Shiny App Source Code**

* **File:** energyPredApp.R
* **Action:**  
  This is the full R script used to create the interactive **Shiny App** for energy prediction, hotspot mapping, and future simulation.  
  You can review how user inputs modify temperature and house setup to predict energy consumption across South Carolina counties.
* **Link for the App:- https://pisin.shinyapps.io/energyPredApp/**

**3. Project Markdown File (Optional)**

* **File:** project.Rmd
* **Action:**  
  This R Markdown file was likely used to document or generate intermediate reports/codebooks during the project.  
  (Opening it is optional unless you want to dive deeper into backend analysis.)

**Software Requirements**

|  |  |
| --- | --- |
| **Purpose** | **Software Needed** |
| Reading Reports (.docx, .pdf) | Microsoft Word, Google Docs, or any PDF Reader |
| Viewing Presentation (.pptx) | Microsoft PowerPoint or Google Slides |
| Running R Code (.R, .Rmd) | **R** (version 4.0 or higher) + **RStudio** IDE (recommended) |

**Required R Packages:**  
(These are listed inside energyPredApp.R and the project report)

* shiny
* shinydashboard
* RCurl
* jsonlite
* tidyverse (includes dplyr, ggplot2)
* ggmap
* DT
* plotly
* sf
* sp
* usmap
* maps
* readxl

To install these in R, run:

install.packages(c("shiny", "shinydashboard", "RCurl", "jsonlite", "tidyverse", "ggmap", "DT", "plotly", "sf", "sp", "usmap", "maps", "readxl"))

**Datasets needed:**  
The app reads Excel files like newData.xlsx, rawdata.xlsx, originalData.xlsx, etc., stored locally in a database/ folder.

**Summary of Steps**

* Step 1: Read the Project Report (.docx or .pdf).
* Step 2: Review the Presentation Slides (.pptx).
* Step 3: (Optional) Check the R Markdown file.
* Step 4: Explore the Shiny App code (.R) if interested.
* Step 5: Ensure R + RStudio + required packages are installed if running the app.

**THANKYOU!**

**GITHUB:-** [**https://github.com/MIHIR0501/The-Energy-Story**](https://github.com/MIHIR0501/The-Energy-Story)