

Mini Project: Combating Social Media Addiction with Data-Driven Insights

Background:

Social media platforms have become integral to our daily lives, especially for students. While they offer connectivity and entertainment, overuse can negatively impact mental health, sleep, productivity, and overall well-being. Educational institutions, counselors, and parents are increasingly seeking **data-driven strategies** to address this issue.

Your mission as a **Data Analyst in a Mental Wellness Research Team** is to analyze student social media usage patterns, explore demographic influences, and uncover trends that can guide awareness campaigns and digital detox programs.

Objective:

Use Python (with Pandas, NumPy, Matplotlib, etc.) to explore the dataset and derive meaningful insights. Your goal is to **visualize trends and tell a compelling data story** that can help reduce social media addiction among students.

Tasks & Guidelines:

1. Data Understanding & Cleaning

- Load the dataset
- Handle missing values, if any
- Perform appropriate data type conversions if required.

2. Exploratory Data Analysis (EDA)

- Understand relationships between:
 - Age, Gender, Daily Usage (in hours)
 - Sleep patterns, Academic performance, Social interaction

- Analyze how addiction varies across demographics

3. Aggregation & Insights

- Use **groupby** and aggregation to find average addiction level across different:
 - Genders
 - Age groups
 - Education levels

4. Functions, Loops, and Conditionals

- Create custom functions to:
 - Classify risk level (Low/Medium/High) based on usage hours
 - Suggest digital detox strategies using if-else blocks

5. Data Visualization

- Use at least **4 different types of visualizations**:
 - Bar chart, Pie chart, Heatmap, Line plot, etc.
- Each chart must include:
 - Clear title, labeled axes
 - A **short written story/insight** below the chart (1–2 lines)

6. Storytelling Deliverable

- At the end of the project, craft a **10-line story summary** describing:
 - Key patterns
 - Root causes

- Recommended actions to combat addiction

Submission Format - Download your .ipynb file as .HTML or .PDF where solutions and outputs are visible.

Evaluation Metrics

Component	Criteria	Max Marks
Data Loading	Loads data and prints basic structure	5
Data Cleaning	Check missing values, corrects types	10
Feature Engineering	Creates meaningful new columns (e.g., risk level)	10
EDA	Minimum 4 relevant visualizations	20
Insight Writing	Insight written for each chart	10
Function Usage	Uses custom functions for logic or strategy	10
Grouping/Aggregation	Pandas groupby usage with insights	10
Storytelling	10-line compelling story summary	15
Code Clarity	Readable, commented, modular code	10
Total	Out of 100	100