

Data Analysis Project...

Impact of Remote Work on Mental Health

Prakamya Ajit

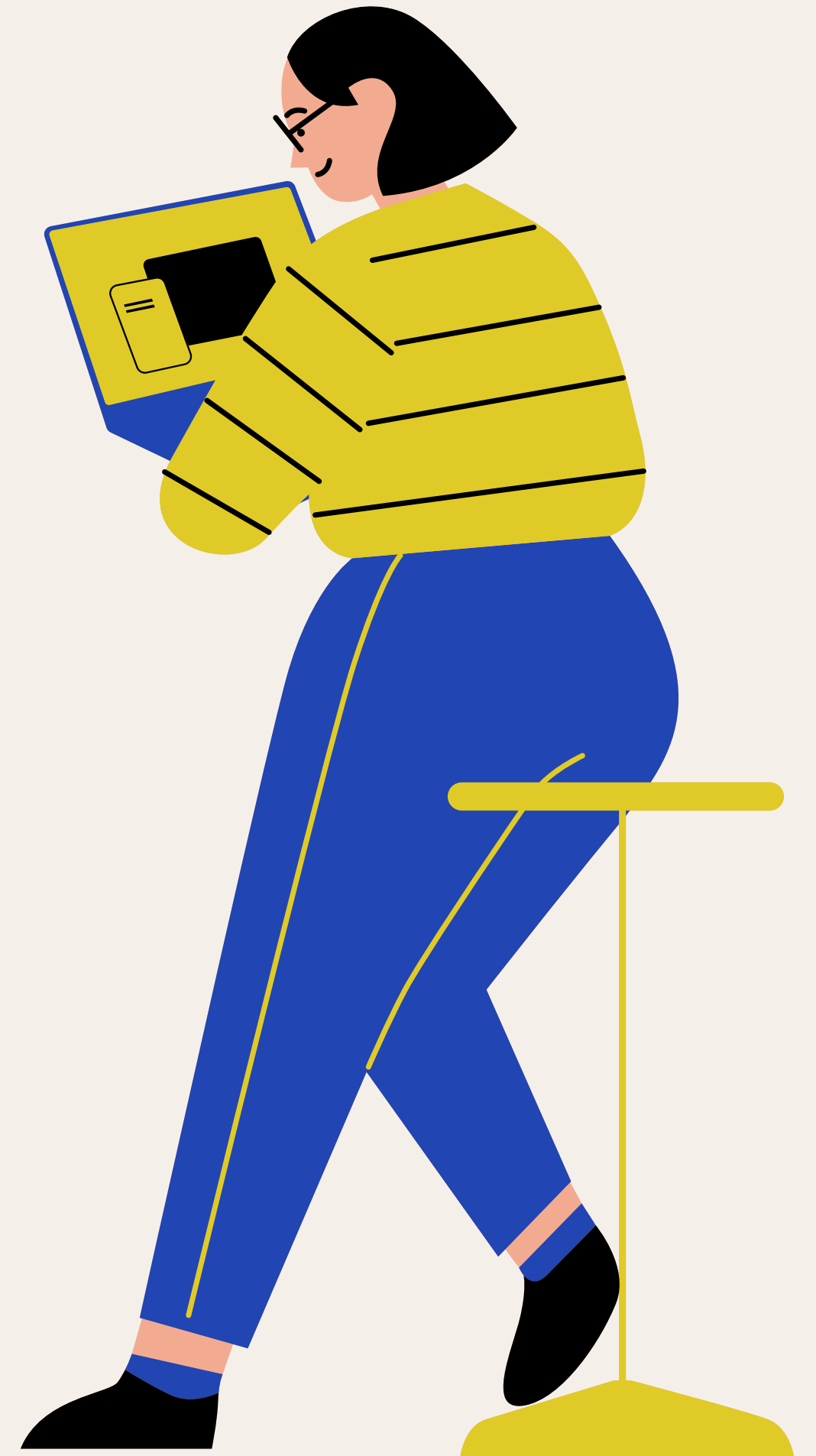


01 - Introduction...

02 - Why Does This Matter?

03 - Tools Used...

04 - Reports Generated...



*Analyzing data
enables informed
decision-making*

01 – Introduction

The rise of remote work offers flexibility and global collaboration, while onsite work fosters direct interaction and team bonding. Remote setups reduce commuting stress but risk isolation and blurred boundaries, whereas onsite offers structure and social engagement. Both require companies to balance productivity, mental health, and team cohesion.

Data analysis helps uncover valuable
insights from complex datasets

01 – Introduction

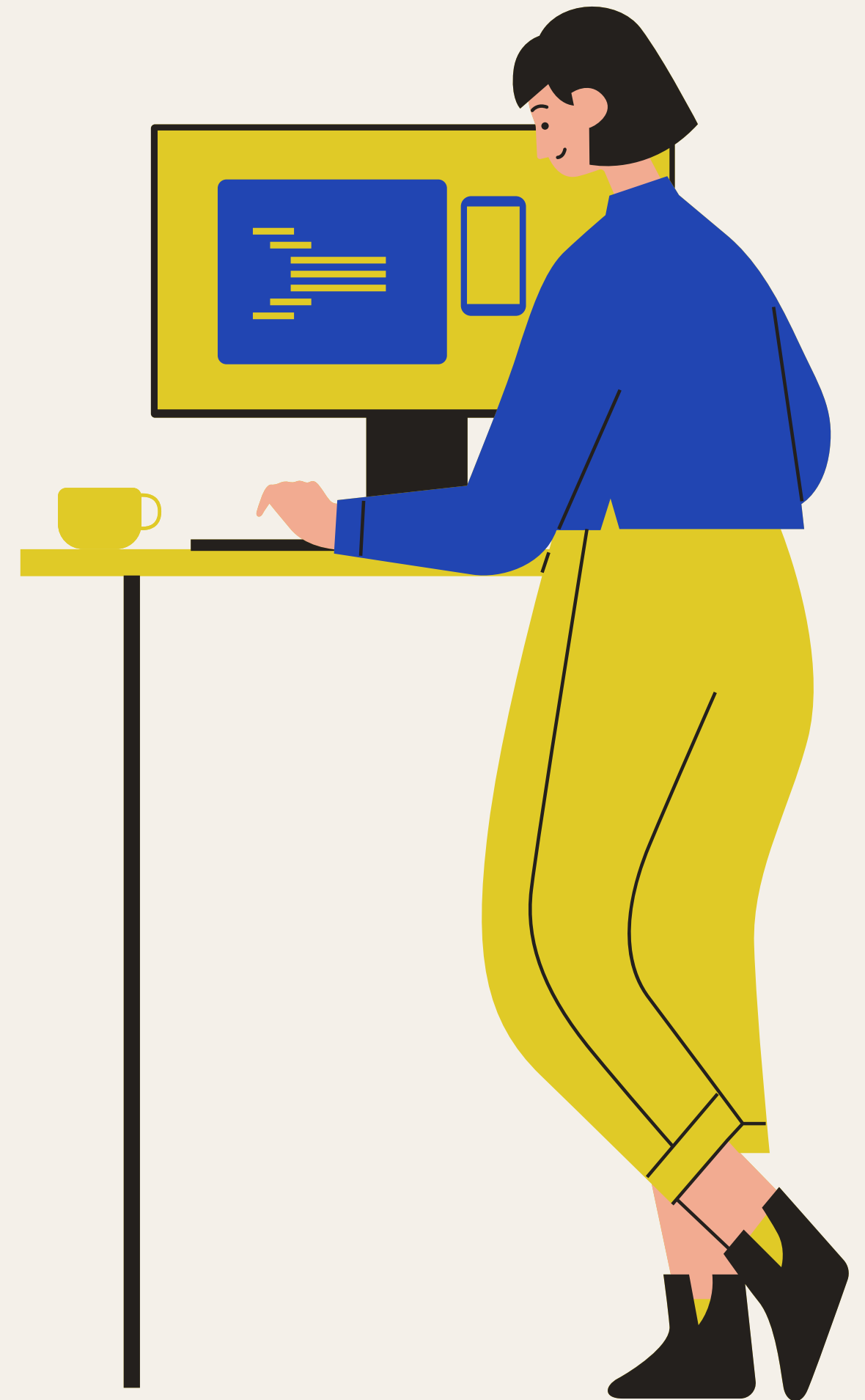
Statistical techniques play a crucial role in data analysis

I've always been the type to quietly observe patterns and make sense of them in my own time. Recently, I found myself curious about how remote work has impacted mental health. So, I dove into the Remote Work and Mental Health dataset on Kaggle(<https://www.kaggle.com/datasets/waqi786/remote-work-and-mental-health>). The results?...

02 – Why Does This Matter?

Statistical techniques play a crucial role in data analysis

Data suggests that remote work policies need to evolve beyond flexibility. To create sustainable work environments, organizations should focus on the mental well-being of their employees through structured, data-driven decisions. The dataset clearly shows that companies offering robust mental health support see more positive outcomes. This isn't just a "soft skill" focus—it's a strategic imperative backed by data.

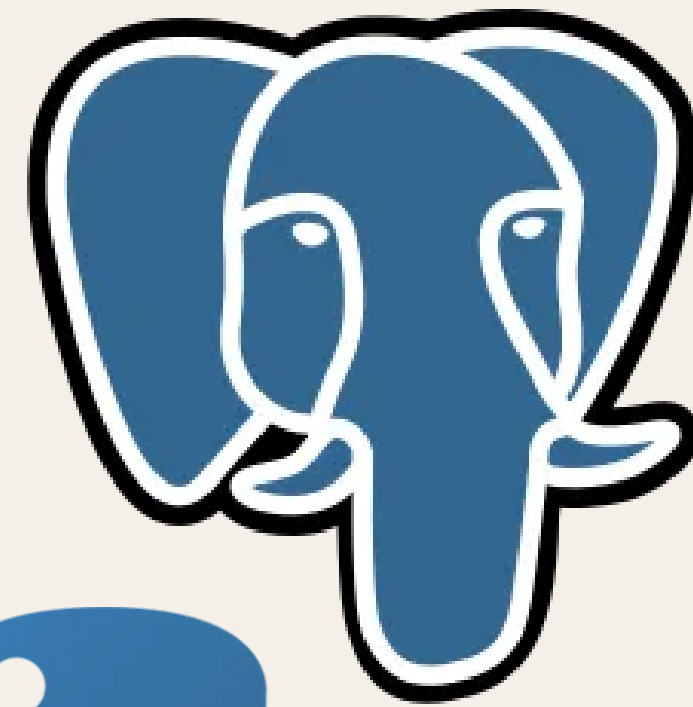


03 – Tools Used...

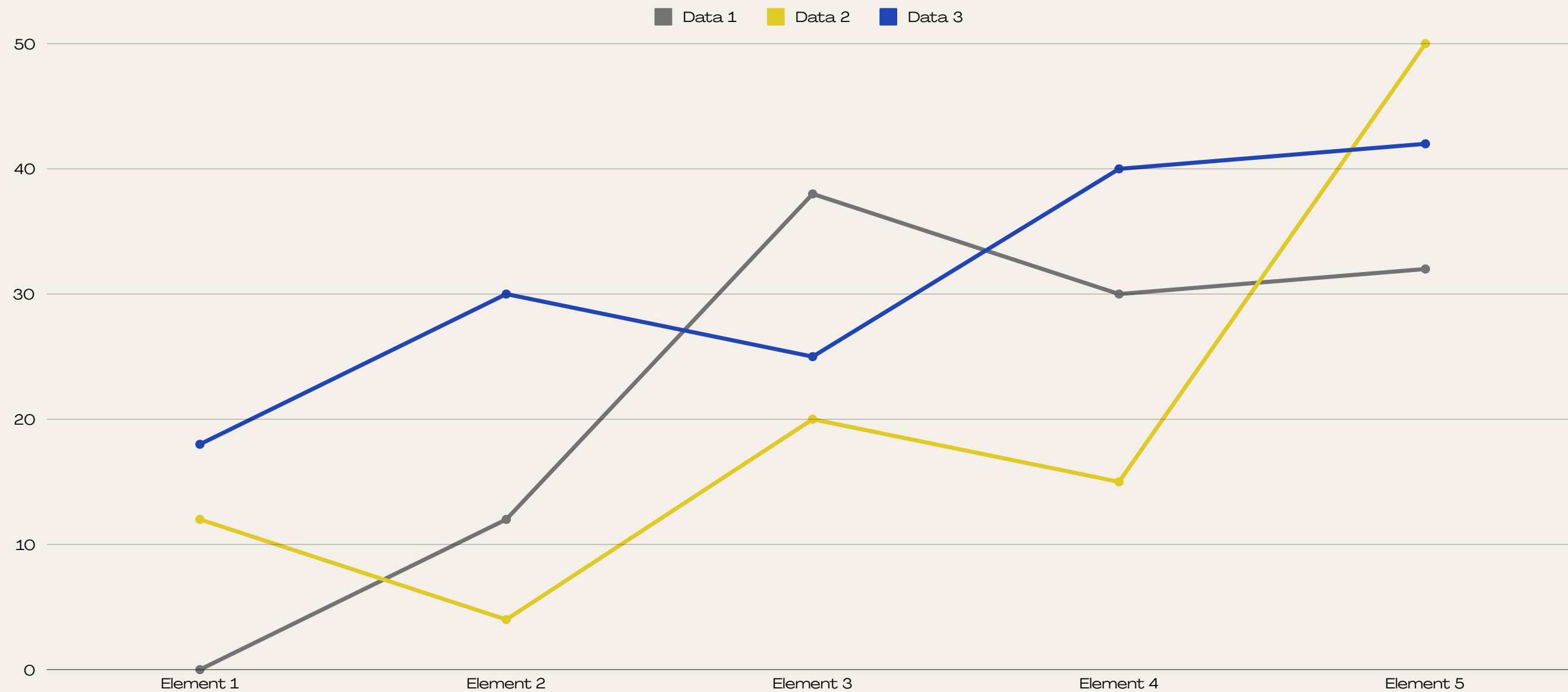
I used:

1. Pandas to manipulate the dataset, efficiently cleaning and transforming the data.
2. NumPy powered some of the heavier lifting with numeric computations.
3. Matplotlib and Seaborn brought the insights to life through engaging visualizations.
4. PowerBI to make an interactive dashboard.
5. PostgreSQL to query the data.

Data wrangling, filtering, and visualizing provided an intimate look into the numbers that went beyond the surface, offering insights that plain observation wouldn't yield.









04 - Reports Generated...

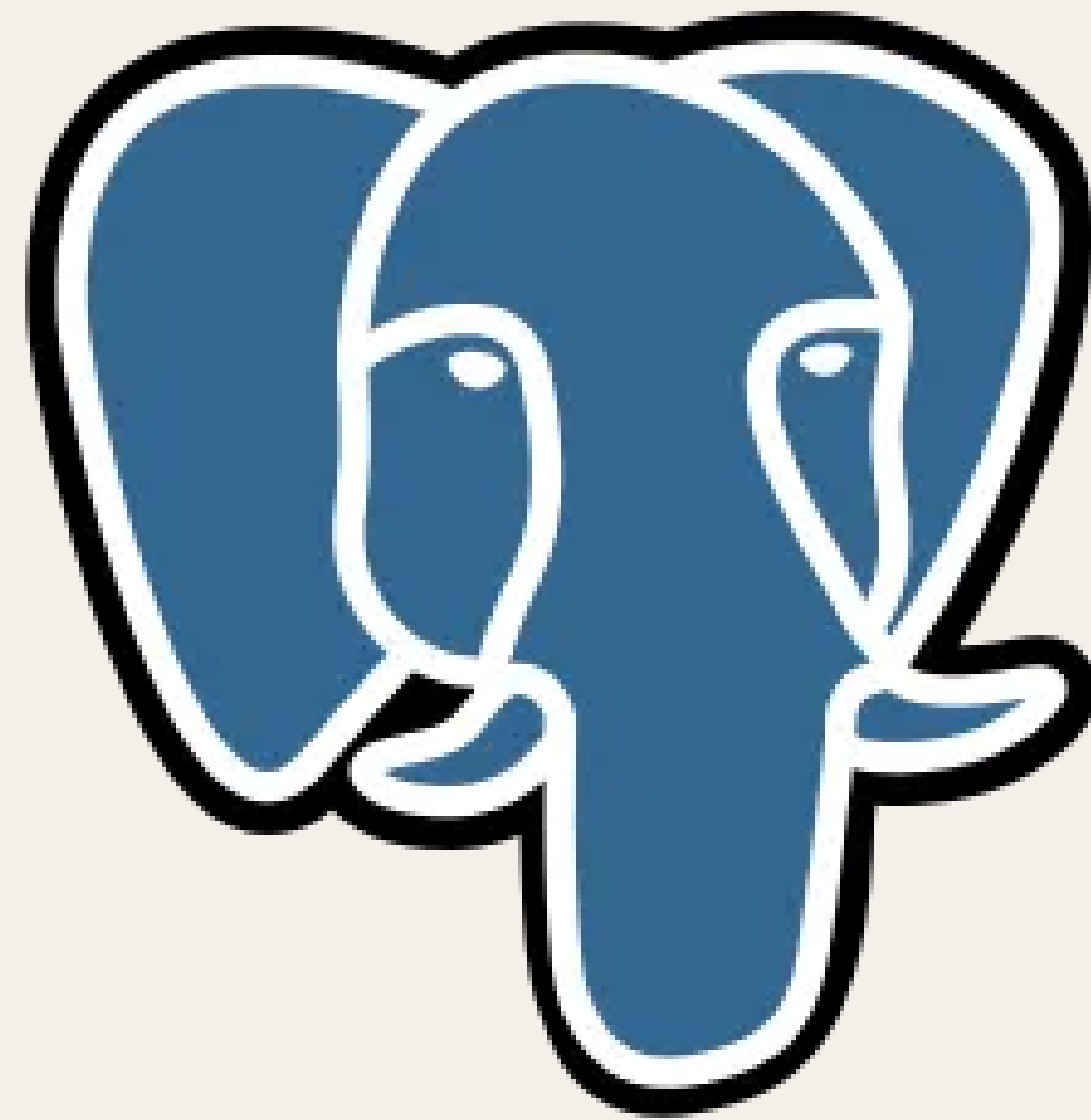


Following pages contain the snapshots of tools and reports generated...



A1      Employee_ID 

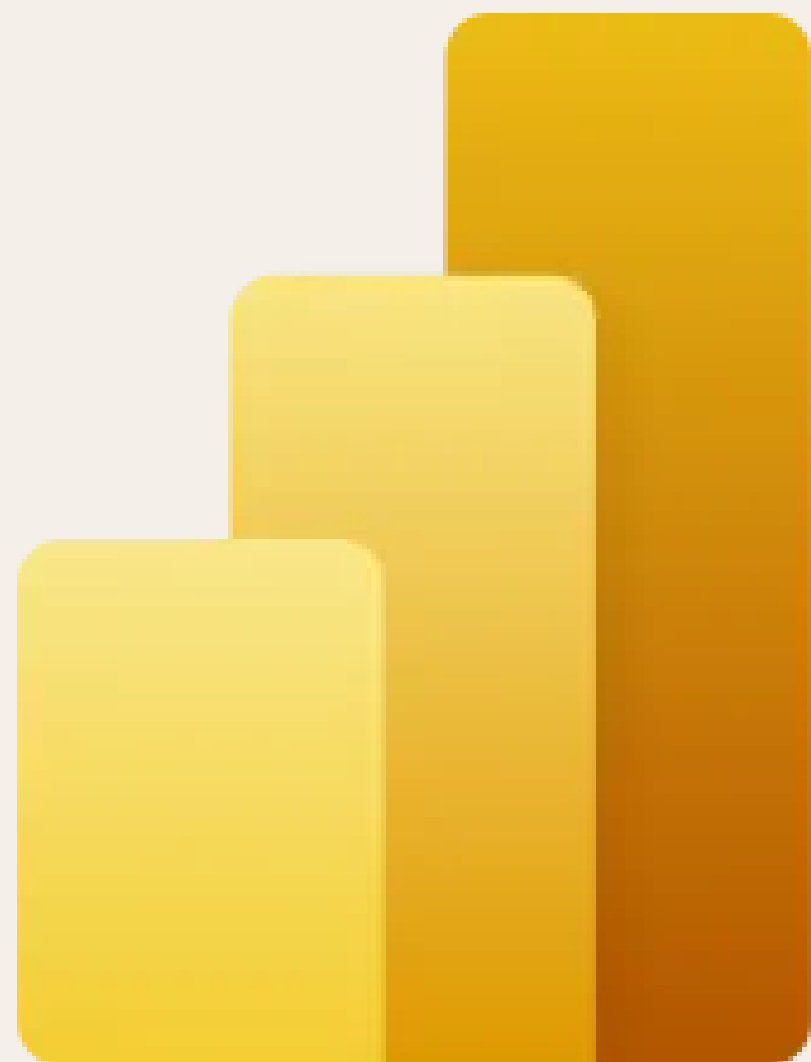
| | A | B | C | D | E | F | G | H | I | J | K | L | |
|----|-------------|-----|-------------------|-------------------|---------------|---------------------|---------------|-----------------------|----------------------------|--------------------------|--------------|-------------------------|-------------|
| 1 | Employee_ID | Age | Gender | Job_Role | Industry | Years_of_Experience | Work_Location | Hours_Worked_Per_Week | Number_of_Virtual_Meetings | Work_Life_Balance_Rating | Stress_Level | Mental_Health_Condition | Access_to_M |
| 2 | EMP0001 | 32 | Non-binary | HR | Healthcare | 13 | Hybrid | 47 | 7 | 2 | Medium | Depression | No |
| 3 | EMP0002 | 40 | Female | Data Scientist | IT | 3 | Remote | 52 | 4 | 1 | Medium | Anxiety | No |
| 4 | EMP0003 | 59 | Non-binary | Software Engineer | Education | 22 | Hybrid | 46 | 11 | 5 | Medium | Anxiety | No |
| 5 | EMP0004 | 27 | Male | Software Engineer | Finance | 20 | Onsite | 32 | 8 | 4 | High | Depression | Yes |
| 6 | EMP0005 | 49 | Male | Sales | Consulting | 32 | Onsite | 35 | 12 | 2 | High | None | Yes |
| 7 | EMP0006 | 59 | Non-binary | Sales | IT | 31 | Hybrid | 39 | 3 | 4 | High | None | No |
| 8 | EMP0007 | 31 | Prefer not to say | Sales | IT | 24 | Remote | 51 | 7 | 3 | Low | Anxiety | Yes |
| 9 | EMP0008 | 42 | Non-binary | Data Scientist | Manufacturing | 6 | Onsite | 54 | 7 | 3 | Medium | Depression | No |
| 10 | EMP0009 | 56 | Prefer not to say | Data Scientist | Healthcare | 9 | Hybrid | 24 | 4 | 2 | High | None | Yes |
| 11 | EMP0010 | 30 | Female | HR | IT | 28 | Hybrid | 57 | 6 | 1 | Low | Depression | Yes |
| 12 | EMP0011 | 33 | Non-binary | Software Engineer | Finance | 17 | Remote | 48 | 3 | 3 | High | None | Yes |
| 13 | EMP0012 | 47 | Female | Marketing | Consulting | 31 | Hybrid | 26 | 12 | 4 | Medium | None | Yes |
| 14 | EMP0013 | 40 | Female | Marketing | Consulting | 1 | Remote | 21 | 7 | 2 | High | Depression | Yes |
| 15 | EMP0014 | 51 | Non-binary | Designer | Manufacturing | 5 | Hybrid | 45 | 13 | 1 | Low | Anxiety | No |
| 16 | EMP0015 | 36 | Prefer not to say | Project Manager | Retail | 23 | Remote | 59 | 11 | 3 | High | Anxiety | Yes |
| 17 | EMP0016 | 56 | Female | Sales | Healthcare | 13 | Remote | 44 | 11 | 4 | Low | Anxiety | No |
| 18 | EMP0017 | 33 | Prefer not to say | HR | Education | 3 | Onsite | 52 | 9 | 2 | Medium | None | No |
| 19 | EMP0018 | 45 | Non-binary | Data Scientist | Consulting | 20 | Onsite | 37 | 8 | 3 | Low | Burnout | Yes |
| 20 | EMP0019 | 49 | Non-binary | Software Engineer | IT | 30 | Remote | 36 | 6 | 1 | High | Anxiety | No |
| 21 | EMP0020 | 59 | Male | Software Engineer | Consulting | 13 | Remote | 59 | 4 | 3 | Medium | Anxiety | No |
| 22 | EMP0021 | 26 | Female | Sales | Retail | 33 | Hybrid | 21 | 1 | 2 | Low | Burnout | No |
| 23 | EMP0022 | 26 | Non-binary | Sales | Education | 21 | Onsite | 54 | 12 | 3 | Medium | Depression | No |
| 24 | EMP0023 | 43 | Prefer not to say | Sales | Finance | 21 | Onsite | 57 | 1 | 3 | Low | Depression | Yes |
| 25 | EMP0024 | 53 | Non-binary | Marketing | Consulting | 11 | Onsite | 22 | 12 | 5 | Low | Depression | No |
| 26 | EMP0025 | 56 | Male | Sales | Finance | 6 | Remote | 54 | 15 | 3 | Low | Burnout | No |
| 27 | EMP0026 | 49 | Male | Project Manager | Healthcare | 23 | Onsite | 21 | 14 | 4 | High | Burnout | No |
| 28 | EMP0027 | 36 | Non-binary | Project Manager | Retail | 30 | Onsite | 24 | 12 | 3 | High | None | No |
| 29 | EMP0028 | 53 | Female | Project Manager | Retail | 31 | Onsite | 56 | 4 | 4 | Low | Depression | No |
| 30 | EMP0029 | 47 | Prefer not to say | Sales | IT | 22 | Onsite | 33 | 10 | 3 | High | Depression | Yes |



- Servers (1)
 - PostgreSQL 17
 - Databases (3)
 - 24_09_2024_RemoteWorkProject
 - 20240914_Projects
 - postgres
 - Login/Group Roles
 - Tablespaces

```
1 SELECT
2     Gender,
3     AVG(Work_Life_Balance_Rating) AS Avg_Work_Life_Balance_Rating
4 FROM tablename
5 GROUP BY Gender;
```

| | gender character varying (512) | avg_work_life_balance_rating numeric |
|---|-----------------------------------|---|
| 1 | Male | 2.9574803149606299 |
| 2 | Non-binary | 2.9843492586490939 |
| 3 | Prefer not to say | 2.9492753623188406 |
| 4 | Female | 3.0447409733124019 |



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Sensitivity

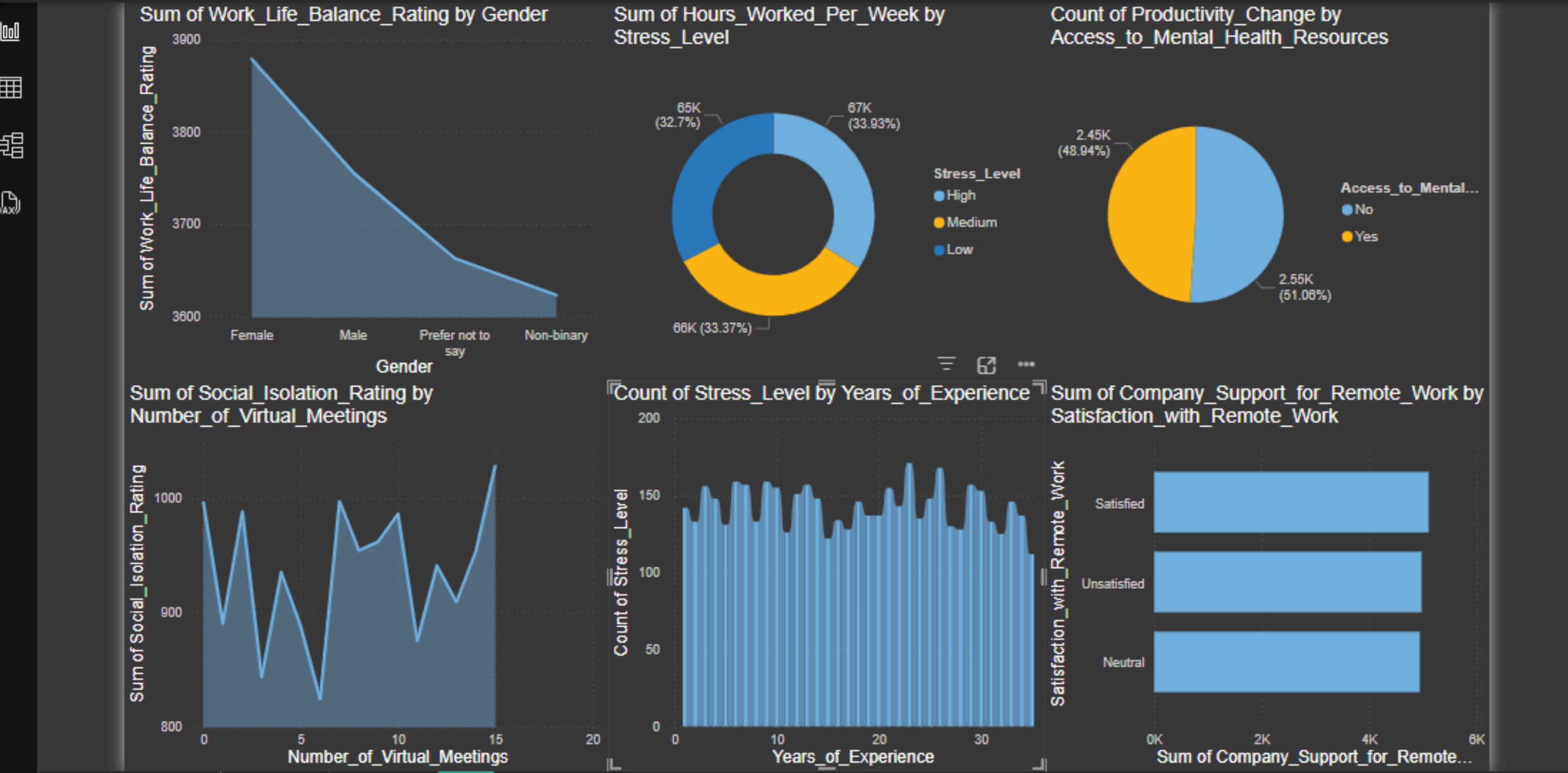
Sensitivity

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Copilot

Copilot



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Impact_of_Remote_W...

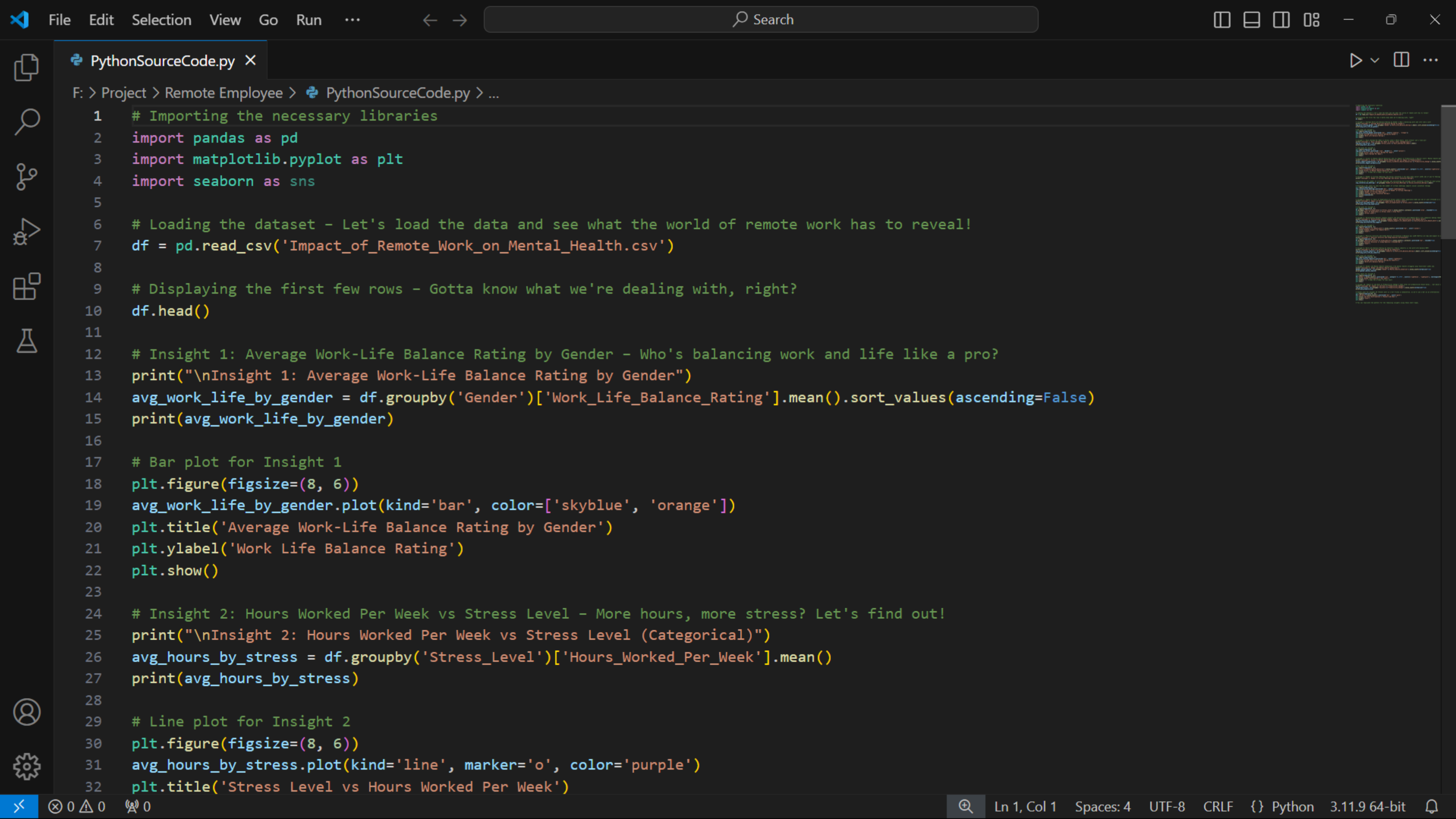
Visualizations

Filters



NumPy







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jupyter






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| <input type="checkbox"/> | Name | Last Modified | File Size |
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| <input type="checkbox"/> |  PythonJupyterFile.ipynb | 4 days ago | 418.6 KB |
| <input type="checkbox"/> |  Impact_of_Remote_Work_on_Mental_Health.csv | 16 days ago | 584.5 KB |
| <input type="checkbox"/> |  PostGreSqlQueries.txt | 5 days ago | 2.3 KB |
| <input type="checkbox"/> |  PowerBI_Dashboard.pbix | 16 days ago | 125.5 KB |
| <input type="checkbox"/> |  PythonSourceCode.py | 16 days ago | 6.3 KB |

Home

PythonJupyterFile

localhost:8888/notebooks/PythonJupyterFile.ipynb

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Trusted

JupyterLab Python 3 (ipykernel)

```
[1]: # Importing the necessary libraries
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Loading the dataset - Let's load the data and see what the world of remote work has to reveal!
df = pd.read_csv('Impact_of_Remote_Work_on_Mental_Health.csv')

# Displaying the first few rows - Gotta know what we're dealing with, right?
df.head()

# Insight 1: Average Work-Life Balance Rating by Gender - Who's balancing work and life like a pro?
print("\nInsight 1: Average Work-Life Balance Rating by Gender")
avg_work_life_by_gender = df.groupby('Gender')['Work-Life_Balance_Rating'].mean().sort_values(ascending=False)
print(avg_work_life_by_gender)

# Bar plot for Insight 1
plt.figure(figsize=(8, 6))
avg_work_life_by_gender.plot(kind='bar', color=['skyblue', 'orange'])
plt.title('Average Work-Life Balance Rating by Gender')
plt.ylabel('Work Life Balance Rating')
plt.show()

# Insight 2: Hours Worked Per Week vs Stress Level - More hours, more stress? Let's find out!
print("\nInsight 2: Hours Worked Per Week vs Stress Level (Categorical)")
avg_hours_by_stress = df.groupby('Stress_Level')['Hours_Worked_Per_Week'].mean()
print(avg_hours_by_stress)

# Line plot for Insight 2
plt.figure(figsize=(8, 6))
avg_hours_by_stress.plot(kind='line', marker='o', color='purple')
plt.title('Stress Level vs Hours Worked Per Week')
plt.ylabel('Hours Worked Per Week')
plt.show()

# Insight 3: Access to Mental Health Resources and its Impact on Productivity - Spoiler alert: Mental health matters!
print("\nInsight 3: Access to Mental Health Resources and its Impact on Productivity")
access_impact_productivity = df.groupby('Access_to_Mental_Health_Resources')['Productivity_Change'].value_counts(normalize=True)
print(access_impact_productivity)
```

Home

PythonJupyterFile

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Trusted

JupyterLab Python 3 (ipykernel)

```
# Insight 9: Gender and Mental Health Conditions - Do mental health struggles play favorites? Let's see.
print("\nInsight 9: Gender and Mental Health Conditions")
gender_mental_health = df.groupby('Gender')['Mental_Health_Condition'].value_counts(normalize=True)
print(gender_mental_health)

# Pie chart for Insight 9
plt.figure(figsize=(8, 6))
df['Gender'].value_counts().plot(kind='pie', autopct='%1.1f%%', colors=['lightblue', 'lightpink'], startangle=90)
plt.title('Gender Distribution - Pie Chart')
plt.ylabel('') # Hide the y-label for pie chart
plt.show()

# Insight 10: Impact of Job Role on Productivity Change - Some roles are productivity black holes... but which ones?
print("\nInsight 10: Impact of Job Role on Productivity Change")
job_productivity = df.groupby('Job_Role')['Productivity_Change'].value_counts(normalize=True)
print(job_productivity)

# Funnel plot for Insight 10 (Funnel plot is a bit tricky in matplotlib, so we'll use a bar as an alternative)
plt.figure(figsize=(10, 6))
df['Job_Role'].value_counts().plot(kind='bar', color='gold')
plt.title('Job Role Distribution - (Funnel-like Bar)')
plt.ylabel('Count')
plt.show()

# You can replicate the pattern for the remaining insights using these chart types.
```

Decrease0.320581
Increase0.316456
Name: proportion, dtype: float64

Job Role Distribution - (Funnel-like Bar)

| Job Role | Count |
|----------------------|-------|
| Software Engineer | 750 |
| Product Manager | 740 |
| Marketing Specialist | 730 |
| UX Designer | 720 |
| Business Development | 710 |
| Operations Manager | 700 |
| Customer Support | 680 |

If you're looking for someone who enjoys translating complex datasets into actionable insights, I'm your person. Whether it's manipulating large datasets with Pandas and NumPy, visualizing trends with Matplotlib and Seaborn, setting up visually-appealing dashboards, or simply understanding the human element behind the numbers—I'm driven by curiosity to help solve real-world problems.



Why Connect?



*Data analysis allows
for identifying
trends and patterns
within datasets.*

Thanks

Project's Video Walkthrough:

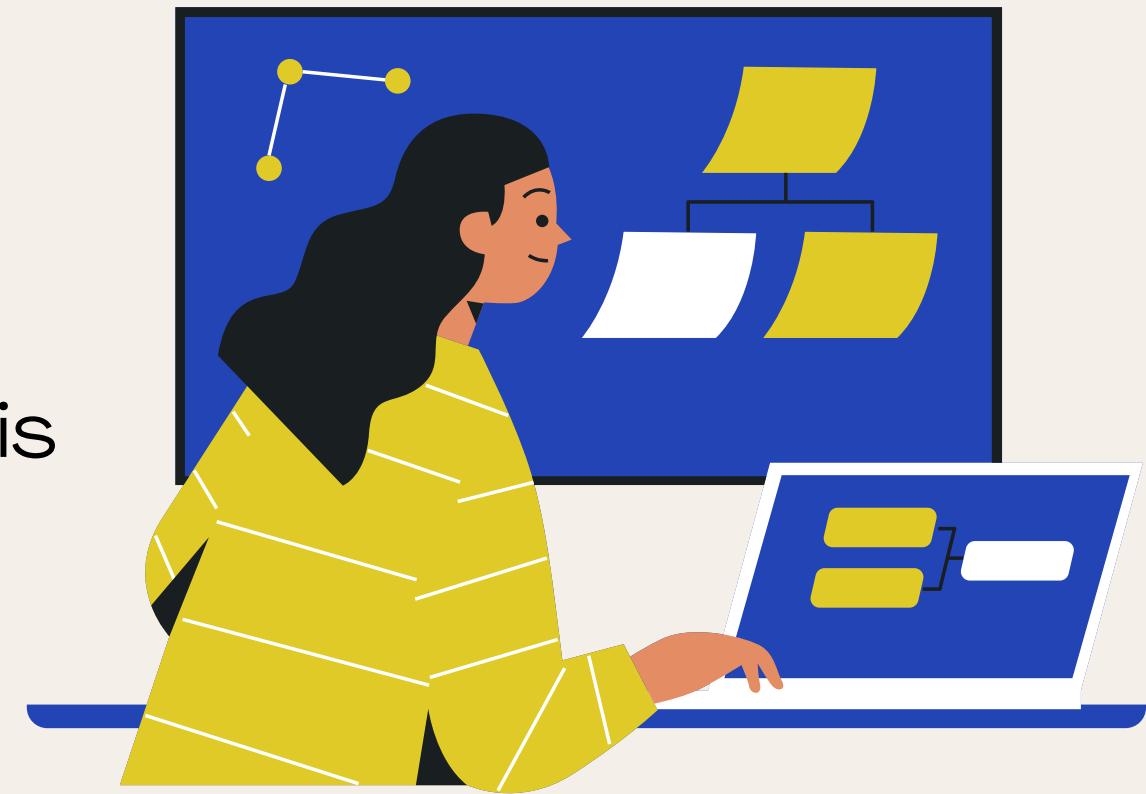
- <https://youtu.be/BP9maWZaDKk>

My Github:

- https://github.com/tempstuid/RemoteWork_Analysis

My LinkedIn:

- www.linkedin.com/in/prakamya-ajit



Prakamya Ajit