SOLAR PANEL FORECAST

WITH

DATA ANALYTICS

SHORT-TERM INTERNSHIP

PROJECT REPORT

Team Members:

1.SONTYANA CHAKRADHAR

2.TUDUMU SAILAKAHMI

3.MEESALA NANI

4.POLAKI GAYATHRI

Solar Panel Forecasting

Introduction

Overview :-

During our short-term internship with Smart Bridge, we've delved into the world of data analytics, with a primary focus on solar panel forecasting. In this introductory section, we'll provide an overview of the importance of data visualization in conveying insights and our objective to create informative visualizations, including dashboards, reports and data stories.

To ensure that our audience comprehends the intricate data we've been working with we've gone beyond merely generating these visualizations. We've taken the crucial step of providing in-depth explanation for each one using paragraphs. This approach not only facilities an easier understanding of the data but also empowers our audience to draw actionable insights

Purpose :-

This analytical process has culminated in the creation of a comprehensive document file that encapsulates our findings and recommendations

Within our visualizations, we've employed a diverse set of chart types, including piecharts, bubble charts, waterfall charts and line charts each serving a distinct purpose in highlighting aspects of our solar panel forecasting project. These visualizations are instrumental in depicting trends, patterns and potential areas of focus for optimizing solar panel performance.

In our internship project with Smart Bridge revolves around the critical field of solar panel forecasting and our approach includes not only creating visualizations but also explaining and analyzing them comprehensively, all while harnessing a wide array of chart types to maximize the clarity and utility of the data we've been entrusted.

LITERATURE SURVEY

Before delving into our own work, it's essential to review the existing literature on solar panel forecasting. This section will provide a comprehen - sive look at prior research and established methods in the field. We will explore how data analytics and visualization have been applied in the context of solar energy predictions

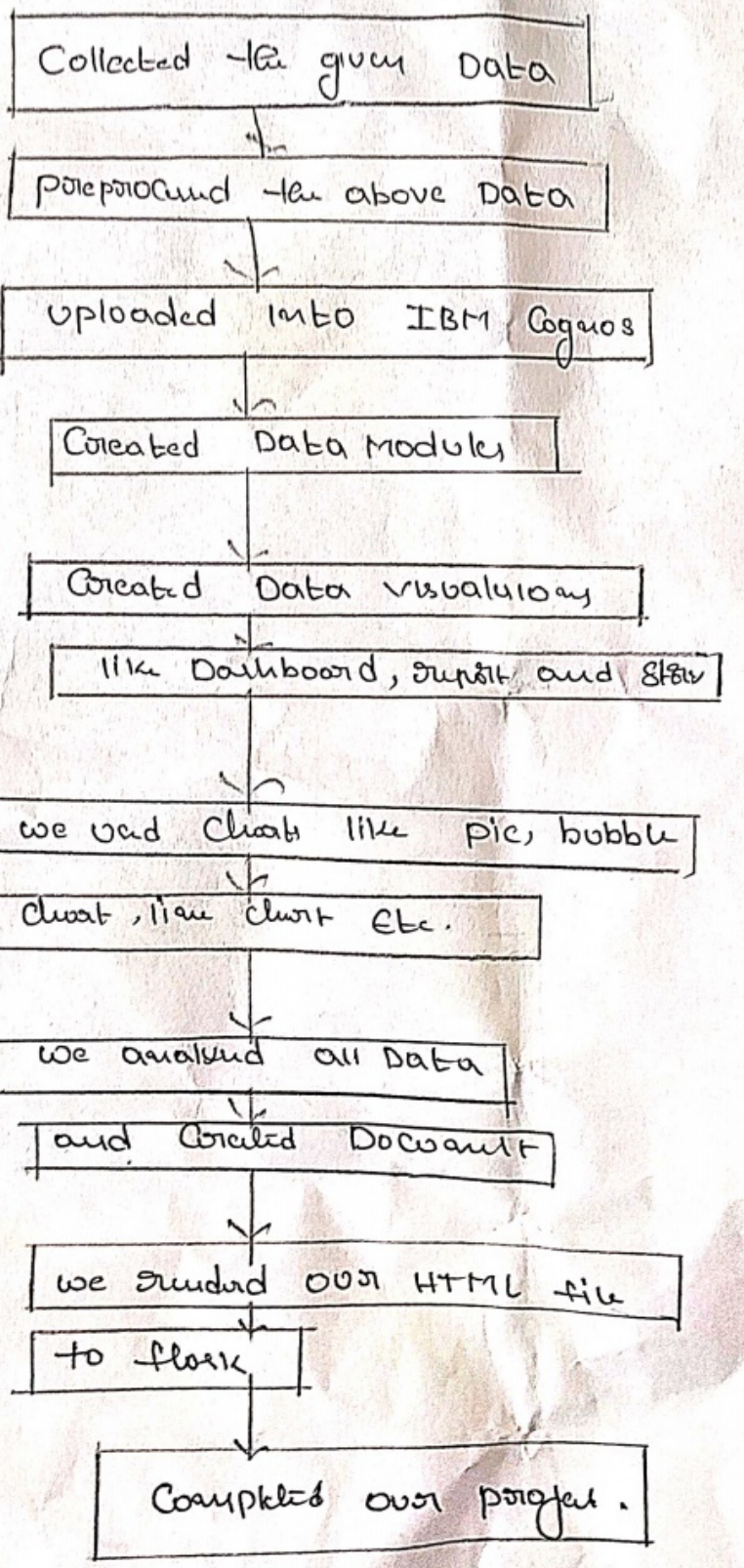
THEORITCAL ANALYSIS

In this section, we'll transition from the literature survey to our own theoretical analysis we'll delve into the principles, models, and methodologies we've employed to forecast solar panel performance. This is where outline the concepts and theories that underpin our work, including the factors considered in solar energy prediction.

EXPERIMENTAL INVESTIGATIONS

The heart of our project lies in the experimental investigations we've conducted. We've carefully examined the provided dataset and harnessed various data visualizations techniques, including pie charts, bubble charts, waterfall charts and line charts. This section will detail our practical approach, the data analysis process, and the insights we've extracted. Additionally, we'll describe how these visualizations and in identifying trends, patterns, and opportunities for optimizing solar panel performance

FLOW CHART


Collected the given Data
preprocessed the above Data
uploaded into IBM Cognos
Created Data Modules
Created Data visualizations
like Dashboard, report and story
we used Charts like pie, bubble
chart, line chart etc.
we analysed all Data
and Created Document
we studied our HTML file
to flask
Completed our project.

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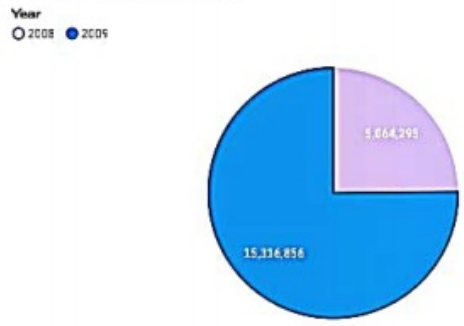
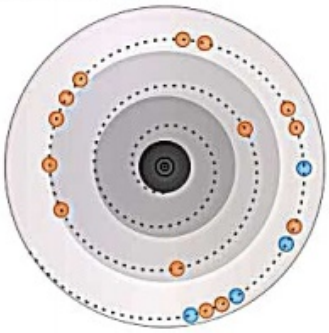
dashbordtitle

Tab 1

Power Generated by Year



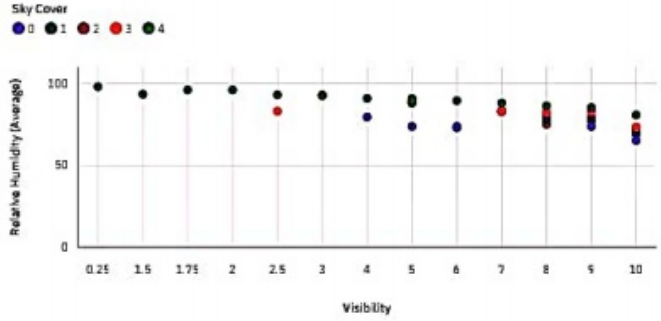
power generated by month



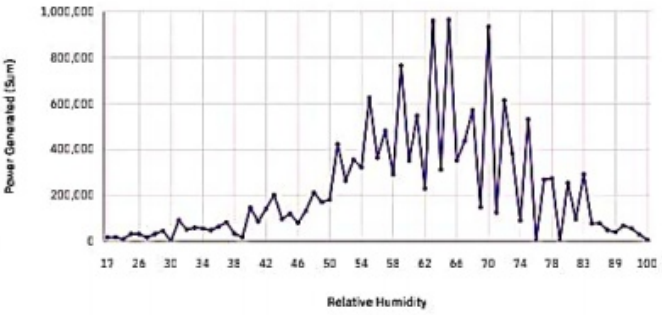
Search drivers

Drivers	%
Average Wind Direction (Day) and Day	64
Average Wind Direction (Day) and Average Temperature (Day)	56
Average Temperature (Day) and Day	50
Average Wind	

Relative Humidity by Sky Cover



Power Generated by Relative Humidity



Management: Understanding the distance to solar noon is essential for managing energy usage and optimizi
during the day, as it relates to the availability of abundant sunlight.

:::STORY:::

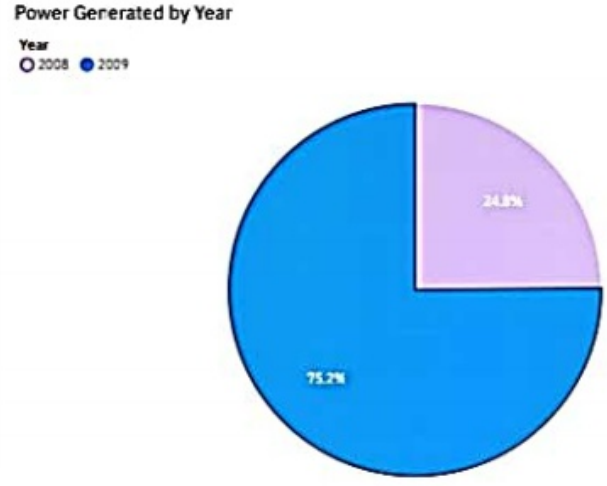
analytics, a "story" typically refers to a structured narrative or explanation created to communicate the insights
a analysis. A data analytics story is a way of presenting data-driven insights in a more relatable and comprehe
-makers, stakeholders, or a broader audience.

SOLAR PANEL FORECAST

STORY

POWER GENERATION IN 2008 AND 2009

- In 2009 solar power generation is 3X more than 2008



APPLICATIONS

Our work extends beyond the theoretical realm, as we aim to apply our findings in practical scenarios. This section will explore the real-world applications of solar panel forecasting, including how our data analytics and visualizations can be used in energy management, solar panel installation planning, and sustainable energy initiatives.

CONCLUSION

In the conclusion, we'll summarize the significance of our internship project with Smart Bridge. This section will emphasize the value of data visualization in the context of solar panel forecasting. We'll reiterate the key take-aways from our work and highlight its potential impact on the field.

RESULT

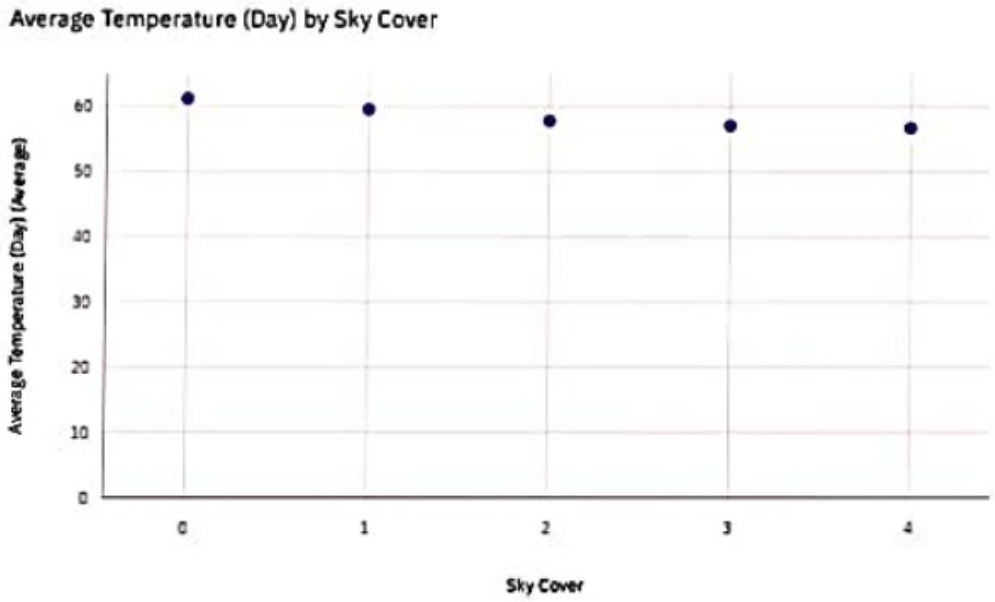
The results section will dive into the specific findings we've uncovered during our internship. It will include a summary of the insight gained from our data visualizations and analytical work. This section should highlight key takeaways from the project, such as notable trends, performance indicators and data-driven recommendations

ADVANTAGES & DISADVANTAGES

In our exploration of solar panel forecasting and data analytics, we've encountered several advantages and disadvantages. Advantages include the ability to make informed decisions based on data, optimize solar panel performance, and identify trends. Disadvantages may include the complexity of data analytics and the potential for inaccuracies in forecasting models. This section will provide a balanced view of the pros and cons of our approach.

AVERAGE TEMPERATURE

- There is no rapid changes in temperature



FUTURE SCOPE

The future scopes section will provide insights into what lies ahead. We'll discuss potential areas for further research and development in solar panel forecasting, as well as how our can serve as a foundation for future projects and innovations. This will open the door to ongoing exploration and improvement in this critical field.

By structuring your report in this way, you'll offer a comprehensive view of your project, including its advantages, results, practical applications, conclusions and future decisions