



SHORT-TERMINTERNSHIP.



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VISAKHAPATNAM**

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Acknowledgements

I would sincerely like to thank APACHE for providing me with this short - term immersion internship which helped me gain practical experience and knowledge on Data Analytics. I think our respected principal Sir Dr. G.S.K Chakravarthy for giving me this wonderful opportunity.

I would also like to thank our Head of the Department Miss. Hymavathi mom, department of BSC computer science and our guide K. Mandala Praveena mom for being a wonderful mentor throughout my project.

I thank Almighty god, my parents and my friends without whose help this project would not have been completed.

This page content gives an idea only, which topics have to write.

1: EXECUTIVE SUMMARY

The internship report shall have a brief executive summary. It shall include five or more Learning Objectives and Outcomes achieved, a brief description of the sector of business and intern organization and summary of all the activities done by the intern during the period.

2: OVERVIEW OF THE ORGANIZATION

Suggestive contents

- A Introduction of the Organization
- B Vision, Mission, and Values of the Organization
- C Policy of the Organization, in relation to the intern role
- D Organizational Structure
- E Roles and responsibilities of the employees in which the intern is placed.
- F Performance of the Organization in terms of turnover, profits, market reach and market value.
- G Future Plans of the Organization.

3: INTERNSHIP PART

Description of the Activities/Responsibilities in the Intern Organization during Internship, which shall include - details of working conditions, weekly work schedule, equipment used, and tasks performed. This part could end by reflecting on what kind of skills the intern acquired.

CHAPTER 1 : Executive Summary

Description of the sector of business (E) intern organization :

Smart Bridge operates in the data analytics sector, providing innovative solutions to enhance business intelligence. The organization leverages Power BI Cognos Analytics to empower clients with actionable insights, enabling data-driven decision-making.

Learning objectives and outcomes :

- 1) Mastery of Power BI Cognos Analytics, 2) Data cleansing 3) Data preprocessing (E) Manipulation,
- 4) Statistical Analysis 5) Mastery of Python programming. 6) Web Designing

Summary of Internship Activities :

- 1) Attending live training sessions and project - mentoring sessions of topic - "student performance analysis"
- 2) Selection and gathering, cleaning and analyzing related data sets in Excel
- 3) Team formation and assignment of tasks to team members
- 4) Designing & developing project using Power BI Cognos Analytics and web integration
- 5) Drafting a project video demonstration and preparation of final report

CHAPTER 2 : OVERVIEW OF THE ORGANIZATION

Smart Bridge is a platform that offers virtual internship to the students. The platform's goal is to prepare students for the job market by establishing a co-operative relationship between industry & academia. Smart Bridge partners with companies such as Google to offer virtual internships. The internships provide students with hands-on experience with the latest technologies, and enable project-based learning. Smart Bridge's flagship event is the "Summer Internship program". The program develops students' skills in emerging technologies, i.e. 1) Artificial Intelligence 2) Machine Learning 3) Internet of things.

Organization's Objective :

Smart Bridge's main objective is to bridge the existing gaps between prevailing standards and what the academic curriculum offers while passing out of the graduates. Smart Bridge offers suitable skill development programs to the young talent to board their first job considering the present demand in the industry. We thereby work along the line to offer

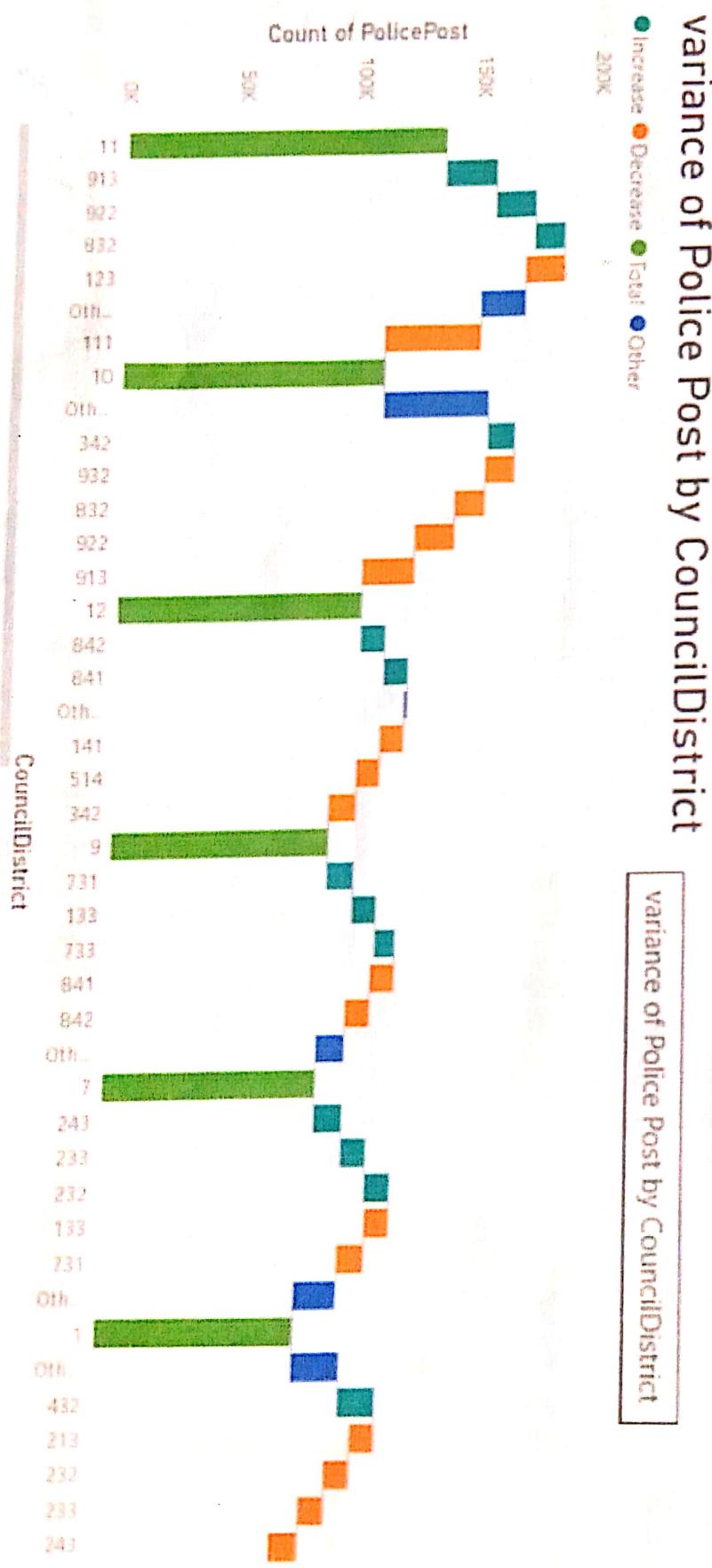
Best programs that helps the students to gain practical knowledge and hands on training to learn skills of the future. Therefore, the main objective of Smart bridge is providing internship for every student, promote industry approved professional electives, & become a talent factory of India by 2006.

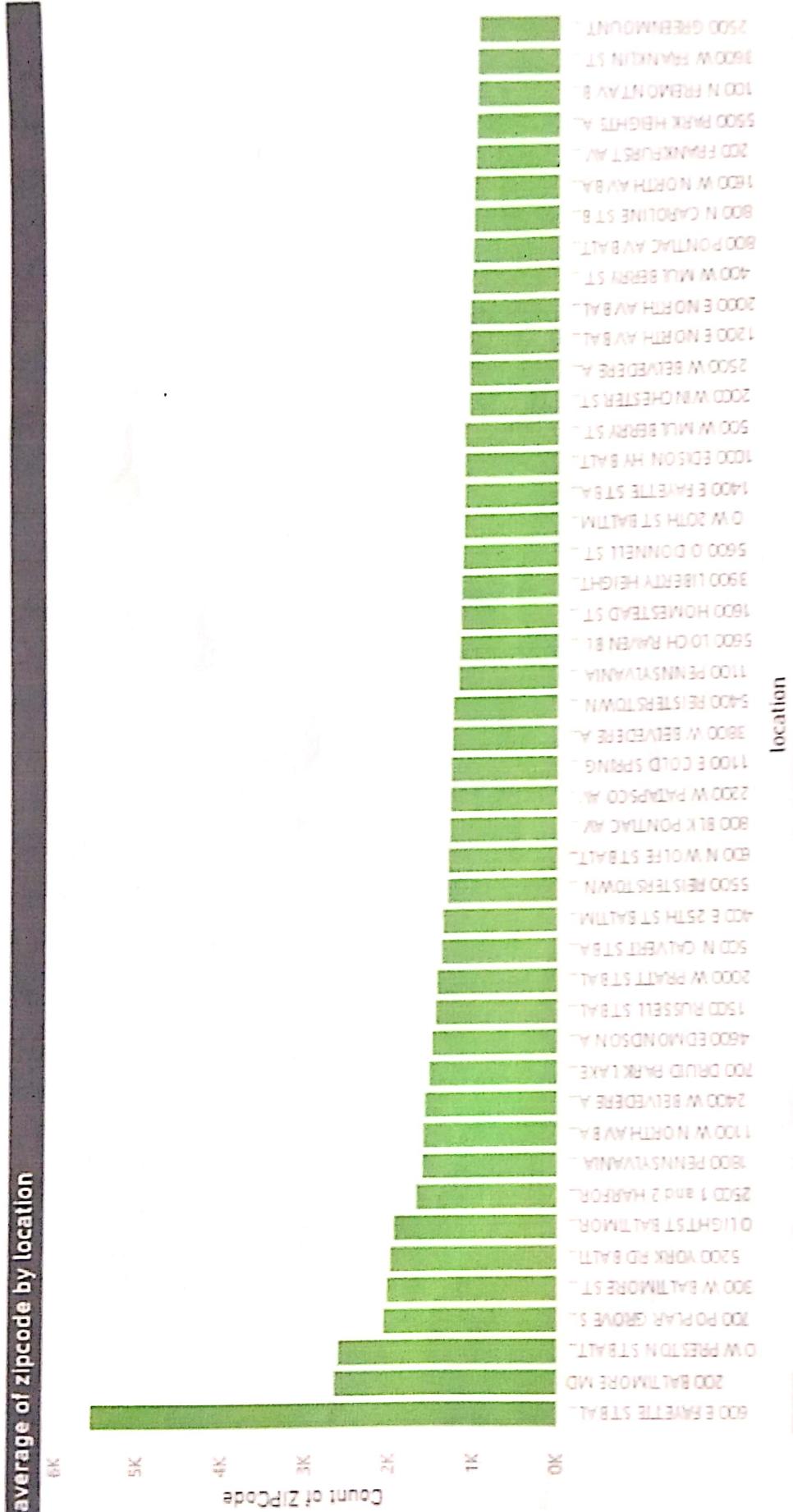
CHAPTER 3: INTERNSHIP PART

Description of the Activities / Responsibilities undertaken

- 1) Registering with opshe smartintern & attending for smartbridge's Data Analytics course i.e. live training sessions as per the pre-scheduled training calendar.
- 2) Participating weekly quiz & completing weekly assignments with respect to Data Analytics.
- 3) Team formation & selection of project topic "Student Performance Analysis".
- 4) Gathering, cleaning & Analyzing the excel data set of the project topic - "A student Performance Analysis".
- 5) Attending project - Mentoring sessions and Designing and developing interactive Dashboard, Story, Report on the project topic using Power BI cognos Analytics.
- 6) Web Integration of above project deliverables with team's webpage using visual studio code, Drafting a project video demonstration and preparation of final report.
- 7) Submission of team project via uploading Github Repository of the team.

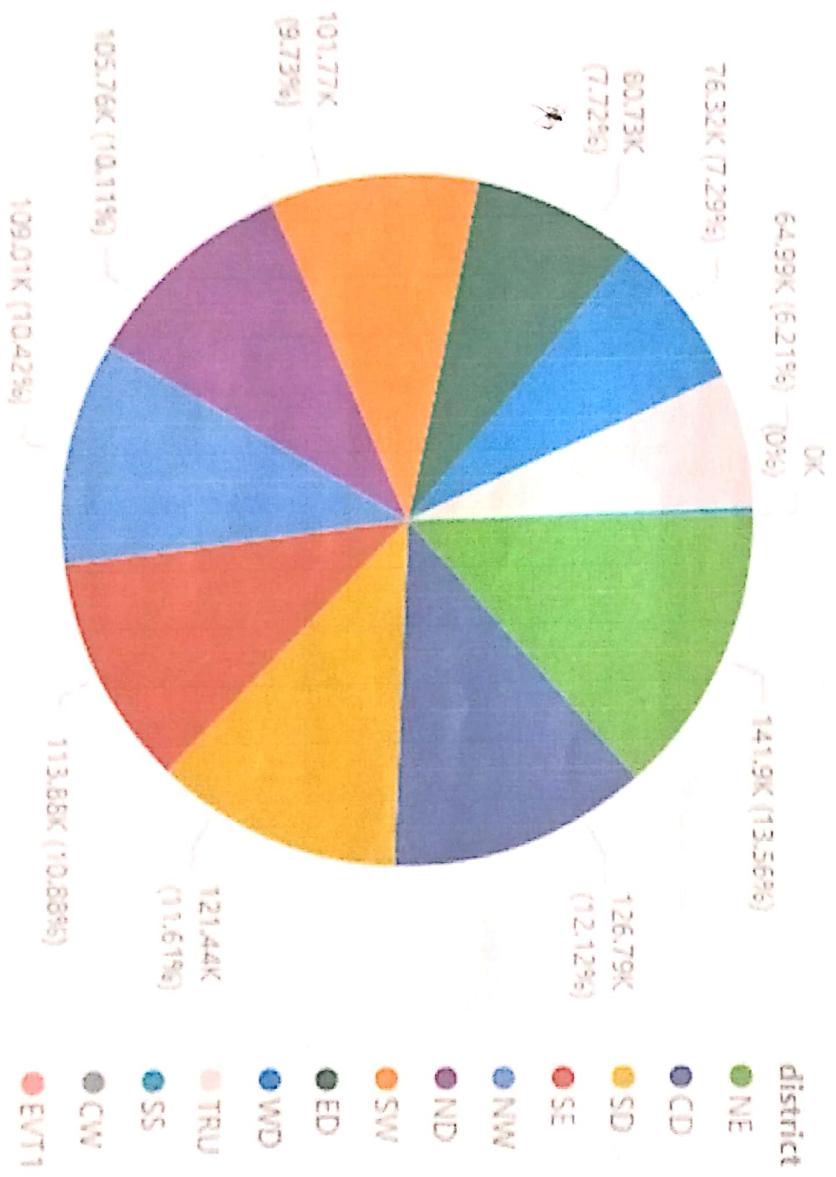
what is the variance of police post by councildistrict ?





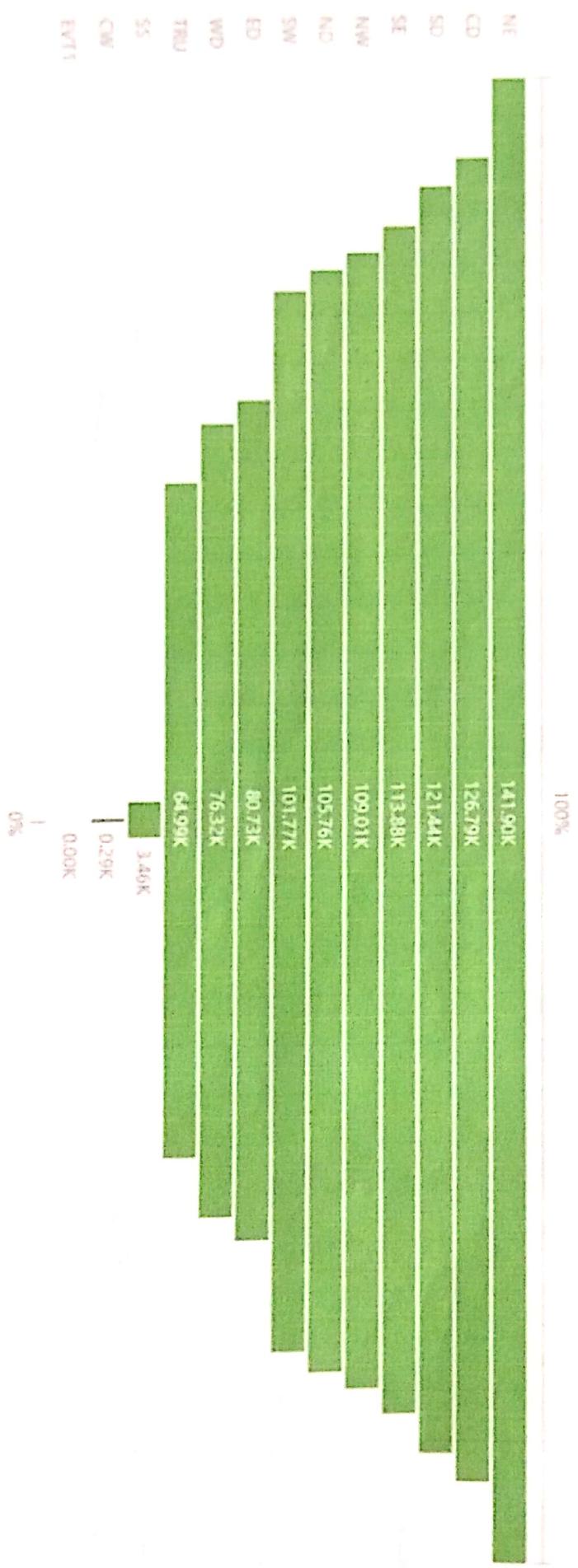
what is the level of priority by district?

level of priority by district



what is the average of neighbourhood and district ?

average of Neighborhood by district

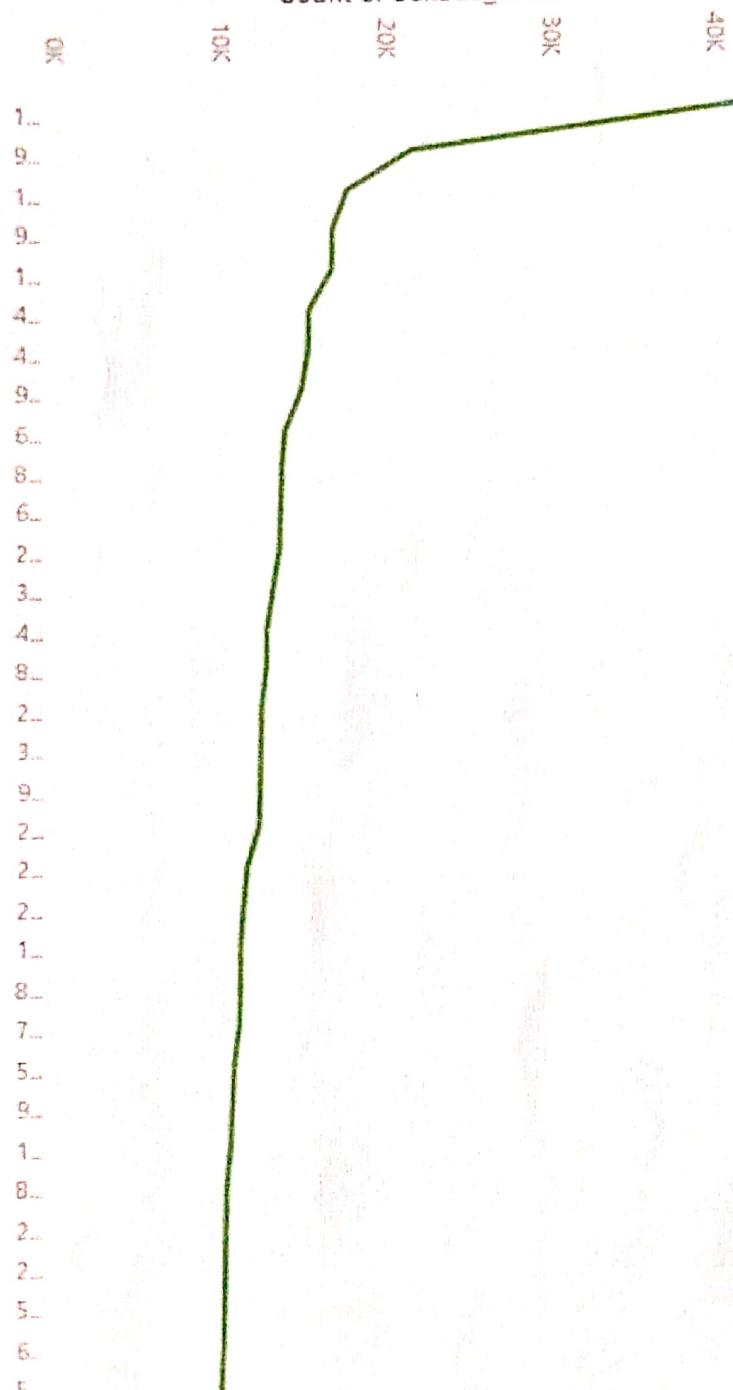


PolicePost according to census tracts

PolicePost according to census tracts



Count of Census Tracts



PolicePost

Clipboard

Data

Queries

Insert

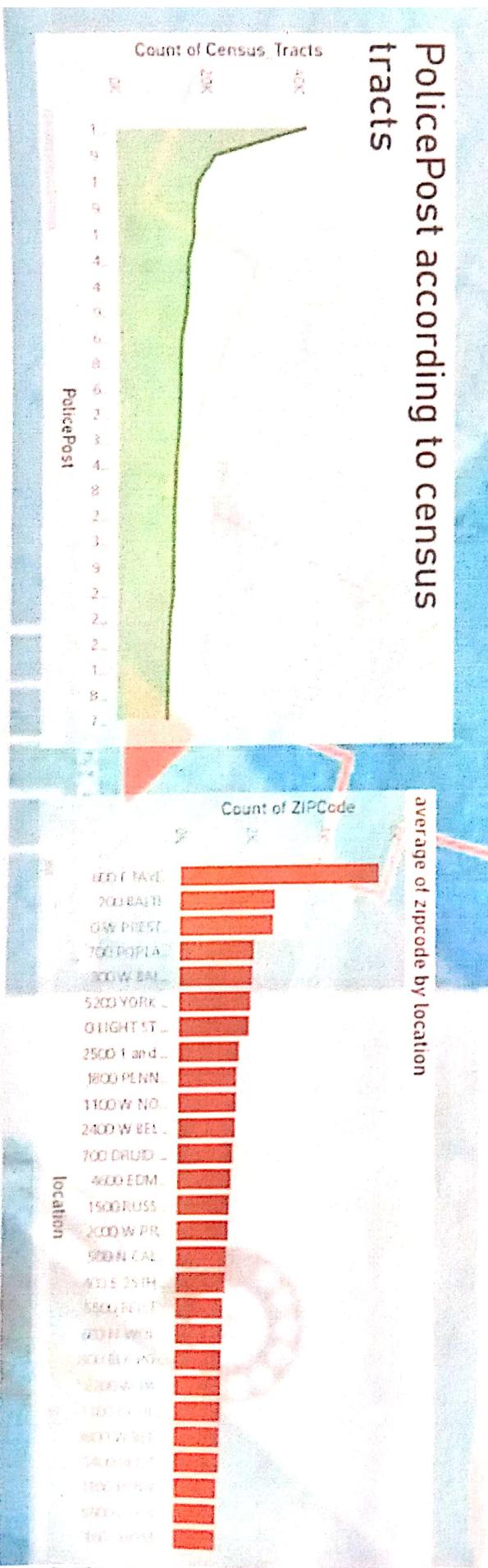
Calculations

Sensitivity

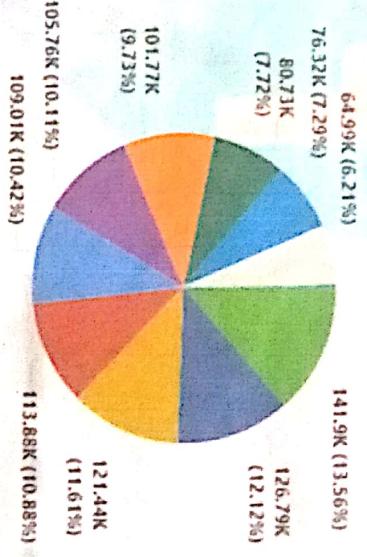
The 911 emergency call system has saved countless lives. This system is part of the U.S. emergency response and disaster preparedness service. Each year, 240 million emergency calls are made to mapping and analyzing 1 million 911 service calls offers a comprehensive look into emergency response patterns and public safety trends. By meticulously cleaning and geocoding the dataset, we transformed raw emergency call data into actionable insights.

Through exploratory data analysis, we identified critical patterns in all frequencies, revealing significant spikes during certain times and locations. Heatmaps and choropleth maps highlighted high-density areas for various emergency types, offering a visual representation of emergency hotspots.

PolicePost according to census tracts



level of priority by district



ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1 8-7-24	Introduction of data Analytics	Analysis of the topic	
Tuesday Day - 2 9-7-24	Introduction of data Analytics	Analysis of the topic	
Wednesday Day - 3	Agenda and understanding customers	Clear view of Business problem and solutions	
Thursday Day - 4	Analysis and implementing data	Putting the data in visual form	
Friday Day - 5	Data Analytics application	Learned about different tools and insights	
Saturday Day - 6	Researched the additional information online	additional information about DA	

Page No

WEEKLY REPORT

WEEK - 1 (From Dt. 21/7/24. to Dt. 28/7/24.....)

Objective of the Activity Done: Introduction to Data Analytics and Power BI

Detailed Report: In the first week, we were introduced to the fundamentals of data analytics emphasizing the role of data - driven decision - making in modern businesses. The sessions covered the basics of data analysis, different types of data, and the importance of data visualization.

We also explored Power BI understanding its interface, features, and how it integrates with other Microsoft products.

The week concluded with a hands-on session on loading and transforming data in Power BI.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	Data Analytics application	Learned about different tools and insights	
Tuesday Day - 2	Data Analytics application	where it is used in diff sec	
Wednesday Day - 3	Data Analytics problem and steps in DA	Learned about data cleaning and processing	
Thursday Day - 4	Data Analytics problem and steps in DA	Learned about data cleaning and processing	
Friday Day - 5	Types of Data Analytics	Different types in DA in clear ways	
Saturday Day - 6	Revision on given topic	Revised about DA	

WEEKLY REPORT

WEEK - 2 (From Dt.....8/7/24.....to Dt.....12/7/24.....)

Objective of the Activity Done: Data transformation and Modeling

Detailed Report: The second week focused on Data transformation and modeling within Power BI

We learned to clean, reshape, and prepare data using Power Query Editor. The training covered essential functions like filtering, merging, and appending datasets.

Additionally, we were introduced to data modeling concepts such as relationships, cardinality, and data hierarchies.

The practical sessions helped reinforce these concepts by allowing us to create and manage data models effectively.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	Business problems and the solutions (Pravise)	Challenges faced in organization	
Tuesday Day - 2	Business problems and the solutions (Pravise)	challenges faced in organization	
Wednesday Day - 3	Power BI in Action	Visible insights in sales for cost	
Thursday Day - 4	BI Architecture	Learned about structure	
Friday Day - 5	BI Architecture	Learned about structure	
Saturday Day - 6	Revision on given topics	Revised about DA	

WEEKLY REPORT
WEEK - 3 (From Dt. 16/7/24 to Dt. 19/7/24....)

Objective of the Activity Done: Data visualization Techniques

Detailed Report: In the third week, the emphasis was on data visualization techniques using Power BI.

We explored various types of charts, graphs, and maps that can be created in Power BI to visualize data insights.

The sessions included best practices for selecting the right visualizations based on the type of data and the message we want to convey. We also learned about customizing visual elements, using themes, and enhancing reports with interactive features like slices and drill-throughs.

ACTIVITY LOG FOR THE FOURTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	Data to insights flow in power BI	Learned about data and model view	
Tuesday Day - 2	Tables and merges	Learned about the kinds in merge	
Wednesday Day - 3	Tables and merges	Learned about the kinds in merge	
Thursday Day - 4	ETL tools in Power Query	Understand Power BI data flows	
Friday Day - 5	ETL tools in Power Query	Understand Power BI data flows	
Saturday Day - 6	Researched the additional information online	Additional information about BI	

WEEKLY REPORT

WEEK - 4 (From Dt. 22/7/24. to Dt. 26/7/24.....)

Objective of the Activity Done: Advanced Analytics and DAX

Detailed Report: Week four delved into advanced

Analytics and Data Analysis EXPRESSION

(DAX) in Power BI

We learned how to create calculated columns, measures, and custom tables

using DAX. The training covered complex DAX functions such as time intelligence filtering, and aggregation.

We also explored advanced analytical techniques like trend analysis, forecasting and what-if scenarios.

The week ended with exercises to build dynamic reports using DAX - driven insights.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	Data sources dash boards and insights	learned how there are used in BI	
Tuesday Day - 2	Data collection and data cleaning	learned about the process in DA	
Wednesday Day - 3	Data Analytics Expressions (DAX)	learned about the process in DA	
Thursday Day - 4	Data Analytics Expressions (DAX)	learned about the expression and functions	
Friday Day - 5	Data Analytics expressions (DAX)	learned about the expression and functions	
Saturday Day - 6	Discussion Regarding project	Discussed about project	

WEEKLY REPORT

WEEK - 5 (From Dt 29/7/24, to Dt 2/8/24.....)

Objective of the Activity Done: Power BI Service and Collaboration

Detailed Report: The fifth week covered the power BI service and its collaborations features. We learned how to publish reports to the power BI service, share dashboards and collaborate with team members in real time. The sessions emphasized data security, row level security (RLS), and managing workspaces. We also explored power BI's integrations with other Microsoft tools like excel, Teams and SharePoint, making it easier to collaborate and share insights across the organization.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	filter functions in DAX	Different filters in DAX	
Tuesday Day - 2	filter functions "in DAX	Different filters in DAX	
Wednesday Day - 3	preparations for grand assessment test	Preparation for assessment test	
Thursday Day - 4	preparation for grand assessment test	Preparation for assessment test	
Friday Day - 5	grand assessment test	gave the grand assessment test	
Saturday Day - 6	Researched the additional information online	additional information about BI	

WEEKLY REPORT
WEEK - 6 (From Dt.....5/8/24..... to Dt.....9/8/24.....)

Objective of the Activity Done: Best practices and industry applications

Detailed Report: In the final week of internship classes, we focused on best practices in data analytics and real-world applications of Power BI across various industries. We discussed key strategies for optimizing data models, enhancing report performance, and maintaining data governance.

The sessions also included case studies showcasing how companies use Power BI for business intelligence, sales analysis, financial reporting, and operational efficiency. The week wrapped up with an overview of the upcoming project work.

WEEKLY REPORT

WEEK - 7 (From Dt. 12/8/24 to Dt. 16/8/24.....)

Objective of the Activity Done: Project work - data analysis and visualization

Detailed Report: The Seventh week marked

the beginning of the Project phase. We started by defining the Project's scope, objectives, and deliverables. The project involved analyzing a dataset provided by Smart Internz. Cleaning and transforming the data and building a data model.

Our team focused on identifying key metrics, trends, and patterns that could drive business decisions.

The initial reports and dashboards were created to visualize these insights, using the skills and techniques learned over the past six weeks.

WEEKLY REPORT

WEEK - 8 (From Dt. 19/8/24 to Dt. 23/8/24.....)

Objective of the Activity Done: FINALIZATION AND PRESENTATION

Detailed Report:

In the final week, we completed the project by refining our reports and dashboards ensuring they met the project requirement. We focused on enhancing the visual appeal and usability of the dashboards by adding interactive elements and ensuring the data was accurately represented. The week culminated with a presentation to the smart intern team, where we showcased our findings, explained the methodologies used, and demonstrated how the insights could be applied to the analyze " Mapping Emergencies " 1 million 911 calls Service .

The project was well received by making dashboards and reports at a successful conclusion to be a part of this in internship .

CHAPTER 6: OUTCOMES DESCRIPTION

Describe the work environment you have experienced (in terms of people interactions, facilities available and maintenance, clarity of job roles, protocols, procedures, processes, discipline, time management, harmonious relationships, socialization, mutual support and teamwork, motivation, space and ventilation, etc.)

Description of work environment

The internship at Smartbridge has been a transformative experience, equipping me with practical skills in Data - Analytics and a deep understanding of the role of Power BI and Cognos Analytics in the industry. The hands-on experience on real-world projects has not only sharpened my technical skills and project management abilities but has also exposed me to communication skills. The work environment is a collaborative atmosphere with clear task-roles, well-defined protocols & standard procedures. The facilities were equipped with necessary tools for data analysis. Team members exhibited mutual support & teamwork, contributing to a harmonious relationship. Overall, the internship provided a comprehensive experience in Data Analytics within a well-organized and supportive work environment.

Describe the real time technical skills you have acquired (in terms of the job-related skills and hands on experience)

Description of the technical skills Acquired

- * Data Analysis : Proficiency in examining and interpreting complex datasets
- * Statistical Analysis : Understanding and applying statistical methods to derive insights
- * Data visualization : Mastery in creating compelling visualization for effective communication of Data
- * Analytics tools proficiency : Proficiency with web-based tools like MS Excel, Power BI, Google Colab for analytics & visualization
- * Programming language : Knowledge & expertise in Python programming language
- * Visualization generation : Skills in developing interactive dashboards, comprehensive reports, narrative stories in cognos Analytics.
- * Problem solving : Developing solutions to challenges encountered during data analysis
- * Data cleansing and preprocessing : Proficiency in Data cleaning & preparing data for analysis.

Describe the managerial skills you have acquired (in terms of planning, leadership, team work, behaviour, workmanship, productive use of time, weekly improvement in competencies, goal setting, decision making, performance analysis, etc.

Description of the Managerial Skills Acquired

- * Project Management : Coordinating tasks, setting goals & ensuring the timely completion of the data analysis project
- * Team Collaboration : Working efficiently in a group setting, delegating tasks, & fostering a collaborative environment
- * Leadership Skills : Taking initiative, guiding the team, & making decisions to achieve project objectives
- * Time Management : Prioritizing tasks, meeting deadlines, & efficiently allocating resources
- * Problem Solving as a team : Addressing challenges collectively & finding solutions through group discussions & collaboration
- * Adaptability : Being flexible & adapting to changes in project scope or requirements
- * Quality Assurance : Ensuring the accuracy & quality of the data analysis project deliverables produced by the team.
- * Feedback & Improvement : Providing constructive feedback to team members & actively participating in continuous improvement processes

Describe how you could improve your communication skills (in terms of improvement in oral communication, written communication, conversational abilities, confidence levels while communicating, anxiety management, understanding others, getting understood by others, extempore speech, ability to articulate the key points, closing the conversation, maintaining niceties and protocols, greeting, thanking and appreciating others, etc.,)

Description of the communication skills required

- *) Technical communication : Effectively conveying complex data analytical concepts & findings
- *) Presentation skills : Creating & delivering engaging presentations to communicate insights, dashboard, visualizations & projects
- *) Team collaboration : Collaborating with team members to share information, discuss project progress & updates.
- *) Written communication : Crafting clear & concise reports, documentation and emails related to data analytics projects
- *) Conflict Resolution : Addressing & resolving conflicts within the team to maintain a positive & productive environment between team members
- *) Feedback delivery : Providing constructive feedback to peers, mentors & trainers and receiving feedback, fostering a culture of continuous improvement
- *) Clarity in instructions : Clearly communicating project tasks, goals, & expectations, roles to every team member.

Describe how could you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.

Reflecting on my experience in data analytics at Smartbridge interns, I've identified key areas for enhancing my abilities in group discussions, team participation and leadership.

To improve my contributions in group discussions, I aim to actively listen to others, ask insightful questions and share my opinions, perspectives clearly & effectively. As a team member, I plan to strengthen collaboration by proactively offering support, leveraging my technical skills and embracing different viewpoints of team members. Lastly, to enhance my leadership capabilities, I plan to focus on taking initiative, creating a positive team environment, and co-ordinating team activities. Through these measures, I am committed to continuous growth and excellence in my role within the team.

Describe the technological developments you have observed and relevant to the subject area of training (focus on digital technologies relevant to your job role)

1. Enhanced Data Connectivity - Data flows : Allow for the creation of reusable data transformation processes, improving data consistency and efficiency.
 - Data connectors : Expanded to include a wide range of data sources, including cloud services, databases, and APIs
2. Advanced Analytics - Integration with Azure machine learning : facilitates the use of Machine learning Models, within power BI reports for predictive analytics
Enhanced AI capabilities : Features like natural language queries (Q&A) and AI-driven insights provide more sophisticated analytical tools.
3. Improved Data Modeling - Data Modeling Enhancements : New features for building complex data models, including composite models that combine direct query and imported data. - DAX (Data Analysis Expressions) updates - Continuous improvements in DAX functions for more complex calculations and data manipulations.
4. Visualizations and Reporting - Custom Visuals - Expanded library and the ability to create custom visuals to tailor reports to specific needs. *Paginated Reports*. Allow for the creation of highly formatted, printable reports, complementing interactive dashboards.