



## SHORT-TERMINTERNSHIP



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VISAKHAPATNAM**

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## Acknowledgements

I would sincerely like to thankfull APSCHE for providing me this short-term internship which helped me gain practical experience and knowledge on Data Analytics.

I would like to thankfull to our Principle Sir, Dr. G.S.K chakravarthy for giving me this wonderful opportunity.

I would also like to thankfull to our head of the Department Miss. Hymavathi Madam, Department of Computer Science and our guide K. Nagudula Preveena Madam for being a wonderful mentor throughout my Project.

I'm thankfull to my lecturers, mentors and my friends who helped me to do this Project. without team 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 & Intern Organization:-

Smartbridge operates in the data analytics sector. Providing innovative solutions to enhance business intelligence.

The organization leverages Power BI to empower clients with actionable insights, enabling data-driven decision-making.

Learning objectives and outcomes:-

- ① Understand Power BI fundamentals
- ② Data Modeling
- ③ Proficiency in Power BI Tools
- ④ Data cleaning & transformation
- ⑤ Data visualization
- ⑥ Report Design and sharing.

Summary of Internship Activities:-

- ① Attending live training sessions and Project-mentoring sessions.
- ② Selection of topic - "Student Performance analysis" and gathering, cleaning and analyzing its related datasets in excel.
- ③ Team formation and assignment of tasks to team members.
- ④ Designing & Developing interactive dashboards, stories, report on Project using Power BI.
- 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 and Academic. Smart Bridge partners with companies such as google to offer virtual internships. The internship provide students with hands on experience with the latest technologies, and enable project based learning. Smart bridges 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 Preparing industry standards and what the Academy offers the graduates while passing out of University. Smart Bridge offers suitable skill development & training to the young talent before on boarding their first job. Their skill development program are designed considering the present in demand skills 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 for the future. Therefore the main objectives of Smart bridge is providing internship for every student. Promote industry approved Professional electives & become a talent factory of India by 2026.

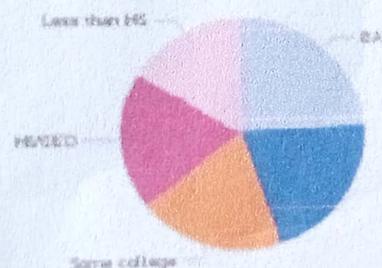
## CHAPTER - 3 : Internship PART.

Description of the Activities / Responsibilities undertaken:

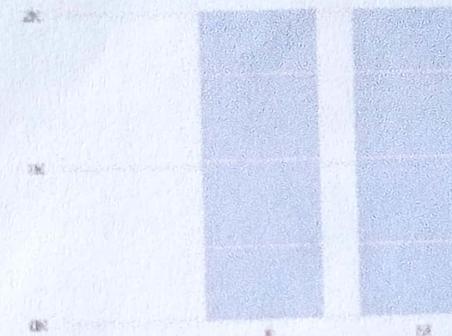
- ① Registering with APSCHE Smart intern & enrolling for Smart bridges data analytics course i.e., live training sessions as per the Pre-scheduled training calendar.
- ② Participating weekly quiz & completing weekly assignments with respect to data analytics.
- ③ Team formation & Selection of Project topic. "Understanding Gun violence: Analyzing Trends and Patterns in America"
- ④ Gathering, clearing & analyzing the excel data sets of the Project topic - " Understanding Gun violence: Analyzing trends and Patterns in America with Power BI."
- ⑤ Attending Project- Mentoring sessions and designing and developing interactive dashboards Reports on the Project topic using Power BI.
- ⑥ Web integration of above Project deliverables with team's web page using visual studio code. Drafting a Project video demonstration and preparation of final report.
- ⑦ Submission of team Project via uploading the project files in Github Repository of the team.

## ANALYZING GUN VIOLENCE TRENDS IN PATTERNS OF AMERICA

Average of age by education



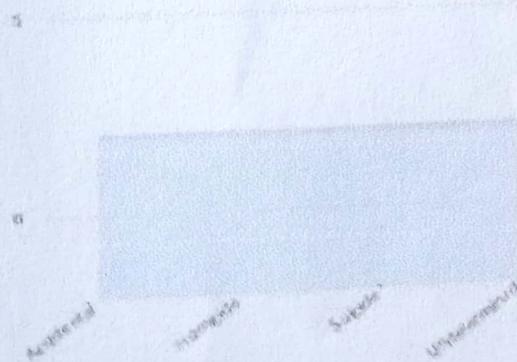
Average of year by sex



### GUN VIOLENCE IN USA:

Gun related violence committed with the use of a firearm. Gun related violence may or may not be considered criminal. Criminal violence includes homicide (except when and where ruled justifiable), assault with a deadly weapon, and suicide, or attempted suicide, depending on jurisdiction.

Max of month by intent



0.12

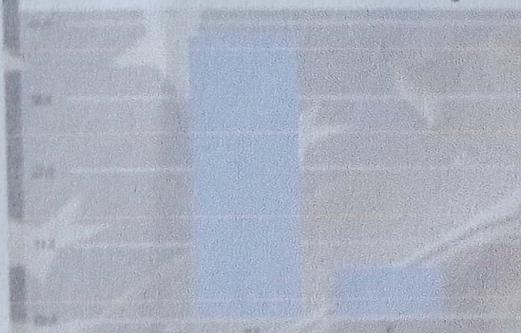
Standard deviation of police

2.01K

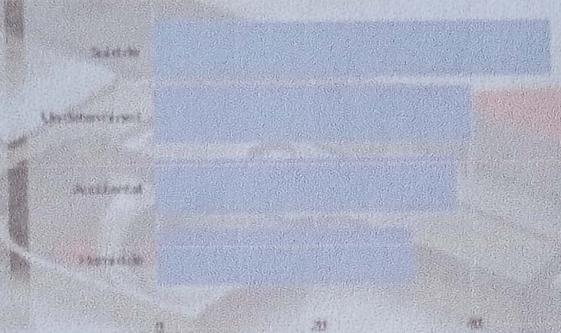
Average of year

## ANALYZING GUN VIOLENCE TRENDS IN PATTERNS OF AMERICA

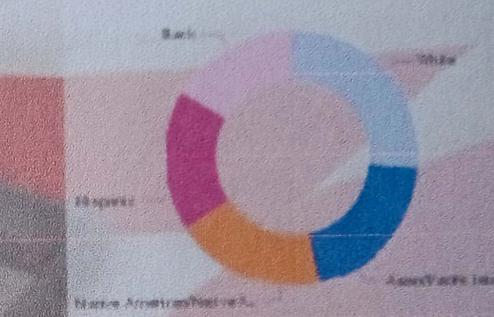
male and female ratio by sex



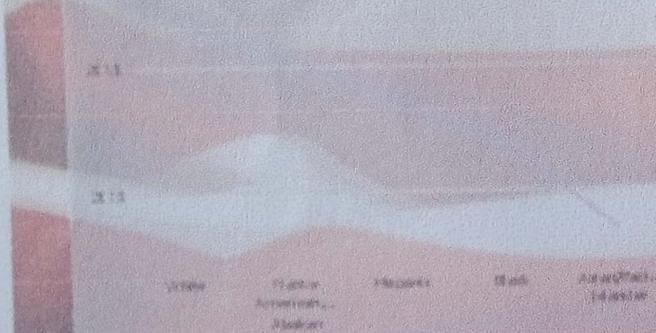
Average of age by intent



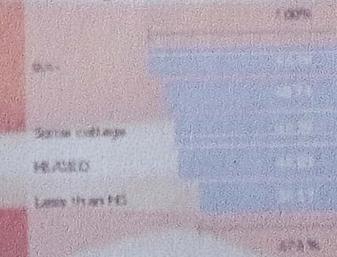
Average of age by race



Average of year by race



Average of age by education



### ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	Introduction of data Analytics.	Analysis of the topic.	
Day - 2	Introduction of data Analytics.	Analysis of the topic.	
Day - 3	Agenda and understanding Customers.	Clear view of business Problem and Solutions.	
Day - 4	Analysis and implementing data.	Putting the data in visual form.	
Day - 5	Data Analytics application.	where it is used learned about value and insight.	
Day - 6	Researched the additional information.	Additional information about DA.	

WEEKLY REPORT

WEEK - 1 (From Dt. 3/7/24... to Dt ... 5/7/24.....)

**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 the data-driven decision-making in Modern business, the sessions covered the basis of data Analytics, 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 table and insights.	
Tuesday. Day - 2	Data Analytics Applications	where it is used in diff sec.	
wednesday. Day - 3	Data Analytics Process and steps in DA.	learned about data cleaning and Processing.	
Thursday. Day - 4	Data Analytics Process and steps in DA	learning about data cleaning and Processing.	
Friday. Day - 5	Types of Data Analytics.	Different types in DA in clear way.	
Saturday. Day - 6	Revision on given topics.	Revised about DA.	

## WEEKLY REPORT

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

Objective of the Activity Done:

Data Transformation and Modeling.

Detailed Report:

The second week focused on data transformation and prepare data within Power BI.

We learned to clean reshape and prepare data using Power BI Editor.

The training covered essential function like filtering merging and appending data set.

Additionally we were introduced data modeling concept such as relationship cardinality and data hierarchies.

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

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**ACTIVITY LOG FOR THE THIRD WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Monday Day - 1	Business Problems and the solutions (Proutise)	challenges faced in organization	
Tuesday Day - 2	Business Problems and the Solutions (Proutise).	challenges faced in organization.	
Wednesday Day - 3	Power BI in Action.	visible insights in sales for cast.	
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.15/7/24... 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 visualization 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 slicers 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.	while Power BI Data flows.	
Friday - Day - 5	ETL tools in Power Query.	while Power BI Data flows.	
Saturday - Day - 6	Researched the additional information online.	Additional information about BI.	

## WEEKLY REPORT

WEEK - 4 (From Dt. 24/7/24... to Dt. 25/7/24.)

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 functions such as time intelligence filtering and aggregation.

We also explored advance analytical techniques like trends 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 these are used in BI.	
Tuesday Day - 2	Data Collection and data cleaning.	learned about the Process in DA.	
Wednesday Day - 3	Data Collection and data cleaning.	learned about the Process in DA.	
Thursday Day - 4	Data Analytics expressions (DAX)	learned about the Process expression and functions	
Friday Day - 5	Data Analytics expression (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 converted the Power BI services and its collaborations features. We learned how to publish reports to the Power BI services, 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.

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**ACTIVITY LOG FOR THE SIXTH WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Monday. Day - 1	Data Sources dash boards and insights.	learned how these are used in BI.	
Tuesday Day - 2	Data Collection and data cleaning.	learned about the Process in DA.	
Wednesday Day - 3	Data Collection and data cleaning.	learned about the Process in DA.	
Thursday. Day - 4	Data Analytics expressions (DAX)	learned about the expression and functions	
Friday. Day - 5	Data Analytics expression (DAX)	learned about the expression and functions.	
Saturday. Day - 6	Discussion regarding Project.	Discussed about Project.	

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 one studied showcasing how companies use Power BI for business intelligence.

Sales analyzing financial reporting and operational efficiency the week wrapped up with an overview of the upcoming project work.

**ACTIVITY LOG FOR THE SEVENTH WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Day - 1	Team Allotment	Selection of team leads and team members.	
Day - 2	Mentor Allotment.	Assigning Mentors to each team.	
Day - 3	Team Project topic Selection.	Selected Project Topic: Understanding Gun Violence: Analyzing Trends and Patterns in America with Power BI.	
Day - 4	Division of team Project tasks	Divided the Project tasks into Systematic Project.	
Day - 5	Assigning tasks to team members.	Assigning task to team members and updating the same in GitHub.	
Day - 6	Create the dashboard	Create dashboard in the Power BI.	

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

Objective of the Activity Done:	Project work data analysis of visualisation.
Detailed Report:	<p>The seventh week marked the beginning of the Project Phase. We started by defining the Project scope, objectives and deliverables. The Project involved analyzing a data set 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.</p> <p>The initial reports and dashboards were created to visualize these insights, using the skills and techniques learned over the past six weeks.</p>

**ACTIVITY LOG FOR THE EIGHTH WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Day - 1	Creating the report about the Project.	Create in Report in Power BI.	
Day - 2	Video Demonstration of Project.	Create Video Demonstration on Project.	
Day - 3	Project Report writing.	Drafting the final Project.	
Day - 4	Project report writing.	Drafting the final Report.	
Day - 5	Register the GitHub for uploading the data.	Upload the dash board and report in the GitHub.	
Day - 6	Project Report finalization and Submission.	Conclusion and Submission of final Report.	

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 requirements.

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 Internz team.

where we showcased our findings, explained the methodologies used, and demonstrated how the insights could be applied to solve real business problems.

The Project was well received, marking a successful conclusion to be the 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 Power BI. The hands-on experience & exposure to real-world projects has not only sharpened my technical abilities but also improved my communication skills and project management skills. The work environment fostered a collaborative atmosphere with clear task-roles, well-defined protocols & structured 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 well-organized comprehensive experience in data analytics 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 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.
- \* Programming language: Knowledge expertise in programming language.
- \* Visualization generation: Skills in developing interactive dashboards, comprehensive report in Power BI.
- \* Data Transformation: Transforming data using Power Query which involves data cleaning, merging, appending.
- \* Performance Optimization: Improving the performance of reports by optimizing data models, reducing data set size and managing relationships.
- \* Error handling: Diagnosing and fixing issue related to data refresh, query errors and visual inconsistencies.

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 managerial skills acquired:-

- \* Project Management:- Coordinating tasks, setting goals & ensuring the timely completion of the data analytics project.
- \* Team Collaboration:- Working effectively in a group setting, delegating tasks & fostering a collaborative environment.
- \* Leadership Skills:- Taking initiative, guiding the team, and 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 & collaborations.
- \* Adaptability:- Being flexible & adapting to changes in project scope & requirements.
- \* Quality Assurance:- Ensuring the accuracy & quality of quality of the data analytics project deliverables produced by the team.

**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 Communication skills acquired:-

- \* Technical Communication:- Effectively Conveying Complex data analytics concepts & findings.
- \* Presentation Skills:- Creating & delivering engaging Presentations to Communicate insights, dashboards, visualization & Project.
- \* Team Collaboration:- Collaborating with team members to Share information, discuss Project progress & update.
- \* Written Communication:- Crafting clear & concise reports, documentation and emails related to data analytics processes.
- \* Conflict Resolution:- Addressing & Resolving Conflicts within the team to maintain a Positive & Productive Environment between team members.
- \* Feedback Delivery:- Providing Constructive feedback to mentors, and trainers and receiving feedback. ∴ Fostering a culture of continuous improvement.

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 Smart Bridge Intern, 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 leader, 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 effectively 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)

## Description of digital technologies of Power BI:-

- ① Data Connectivity:- Power BI connects to a wide array of data sources, including databases, cloud services, and web APIs. This technology allows live connections to data sources, enabling real-time data analysis without importing data into Power BI.
- ② Data Transformation and Modeling:- Power Query editor enables users to clean, transform and shape data through a user-friendly interface. Power BI provides capabilities for creating relationships between different data tables, calculated columns using DAX.
- ③ Data Visualization:- Users can create interactive dashboards with a wide range of visualization such as charts, graphs, tables etc.. These can be customized and tailored to specific needs.
- ④ Natural language Processing (NLP):- A feature enables users to ask questions about their data using natural language and Power BI will generate visualizations based on the queries. This helps users interact with data in a more intuitive way.