SITS/Information Technology/Internship/UG/2023-24/3301042

AN INTERNSHIP REPORT

SUBMITTED TO THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE
IN THE FULFILLMENT OF THE REQUIREMENT

OF

THIRD YEAR OF INFORMATION TECHNOLOGY

SUBMITTED BY

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WITH INDUSTRY

Company Name: IBM CSRBOX
Telephone No: 95603 52170
Mailing Address: info@csrbox.org

UNDER SUPERVISION OF

Supervisor Name: Tushar Sharma
Mode: Online

Start Date for Internship: 21/12/23
End Date for Internship: 19/1/24

Report Date: 22/4/2024

Sinhgad Institutes

DEPARTMENT OF INFORMATION TECHNOLOGY
STES'S SINHGAD INSTITUTE OF TECHNOLOGY AND SCIENCE
NARHE, PUNE - 411041

2023-2024

SITS/Information Technology/Internship/UG/2023-24/3301042

IBM SkillsBuild

CSRBOX
Doing Good in a Better Way

Certificate of Internship

Presented to

Rugved Malghe

We are proud to present this certificate for completion of the **IBM SkillsBuild and CSRBOX Micro-Internship** on **Placement Assistance Program** from 5th January 2024 to 19th January 2024

We wish them a good luck for their future endeavors.

Manoviraj Singh
Vice President - CSR & Government Practice
CSRBOX Foundation

Bhomik Shah
CEO and Founder
CSRBOX Foundation

ACKNOWLEDGEMENT

I would like to thank **Tushar Sharma,** Manager, of **CSRBOX** for giving me the opportunity to do an internship within the organization.

I also would like to thank all the people that worked along with me in the organization with their patience and openness they created an enjoyable working environment.

It is indeed with a great sense of pleasure and immense sense of gratitude that I acknowledge the help of these individuals.

I am highly indebted to Principal **Dr. S. D. Markande** and Vice-principal **Dr. V. M. Rohokale,** for the facilities provided to accomplish this internship.

I would like to thank my Head of the Department **Prof.T.D. Khadtare** for his constructive criticism throughout my internship.

I would like to thank **Mrs. S. N. Firame,** Internship Coordinator Department of Information Technology for her support and advice to get and complete internship in above said organization.

I am extremely grateful to my department staff members and friends who helped me in successful completion of this internship.

Name and Sign of Student: Rugved Sunil Malghe

Place: Pune

Date: 22/04/2024

COMPANY/ORGANIZATION BACKGROUND

Name of Company	CSRBOX
Company address	806-808, Shivalik Satyamev, Bopal Rd, Sardar Patel Ring Rd, near vakils Shaeb Bridge, Bopal, Ahmedabad, Gujarat 380058
Contact number of company	95603 52170
Company background	CSRBOX is India's leading CSR knowledge and impact intelligence driven partnerships platform for the development community. At CSRBOX, we are committed to the idea of advancing social impact and change.
Name of supervisor	Tushar Sharma
Contact number of supervisor	95603 52170
Email ID of supervisor	tushar@csrbox.org

CONTENTS

1. INTRODUCTION TO INTERNSHIP

In the modern era, organizations face a deluge of data from diverse origins such as sensors, social media, and transaction logs. Extracting valuable insights from this data is essential for informed decision-making and maintaining a competitive edge. Data visualization serves as a critical tool in this endeavor, converting complex datasets into visually comprehensible representations.

Traditionally, human expertise has been the cornerstone of data visualization, requiring skilled individuals to design and produce visualizations. However, the rise of artificial intelligence (AI) and machine learning (ML) has introduced automated data visualization tools, fundamentally transforming data analysis and communication processes.

AI-driven data visualization tools employ sophisticated algorithms and models to analyze datasets, discern patterns, and generate insightful visualizations autonomously. These tools streamline data analysis and uncover latent trends and correlations that may elude manual examination.

In today's fiercely competitive job market, securing suitable employment opportunities aligned with one's skills, interests, and career aspirations poses a significant challenge. Recognizing this dilemma, numerous educational institutions and organizations offer Placement Assistance Programs (PAPs) to aid individuals in transitioning from education to employment. These programs aim to furnish participants with resources, guidance, and networking platforms to navigate the job search process effectively and secure fulfilling employment opportunities.

2. MODE OF INTERNSHIP

Mode of Internship is Online

3. DOMAIN OF INTERNSHIP

The domain of data visualization using AI tools encompasses the intersection of data visualization techniques and artificial intelligence (AI) technologies. It involves leveraging AI algorithms and techniques to automate or enhance various aspects of the data visualization process, including data analysis, pattern recognition, visualization design, and interpretation.

4. OBJECTIVES OF INTERNSHIP

The objectives of data visualization using AI tools revolve around enhancing the effectiveness, efficiency, and insights derived from visual representations of data. Here are some key objectives:

- **Automating Visualization Processes:** An essential goal is to streamline the creation of visualizations from raw data by automating the process. AI tools have the capability to analyze extensive datasets and generate suitable visualizations automatically. This capability significantly reduces the time and effort required by data analysts and users, enhancing efficiency in data analysis and interpretation
- **Improving Data Interpretation:** AI-powered data visualization tools strive to enhance the understanding of intricate datasets by uncovering patterns, trends, and relationships that might elude human analysts. Through the utilization of machine learning algorithms, these tools can reveal insights and subtleties within the data, ultimately facilitating more informed decision-making processes.
- **Enhancing Visualization Design:** AI tools can assist in designing more effective visualizations by recommending appropriate chart types, color schemes, and layouts based on the characteristics of the data and the intended audience. This objective aims to create visualizations that are intuitive, informative, and visually appealing.
- **Enabling Interactive Exploration:** AI-driven data visualization tools enable interactive exploration of data, allowing users to drill down into specific data subsets, apply filters, and manipulate visualizations in real-time. The objective is to empower users to interactively explore data and gain deeper insights into patterns and trends.
- **Personalizing Visualizations:** AI tools can personalize visualizations based on user preferences, context, and goals. By adapting the content, layout, and presentation style of visualizations to individual users, these tools aim to deliver tailored insights that are relevant and actionable.
- **Detecting Anomalies and Patterns:** AI-powered data visualization tools excel in automatically identifying anomalies, outliers, and patterns within datasets, thereby assisting users in efficiently pinpointing areas of interest or concern. This capability is especially vital for tasks like fraud detection, anomaly detection, and trend analysis, where detecting irregularities promptly is crucial for effective decision-making and risk management.

5. MOTIVATION/SCOPE OF INTERNSHIP

Motivation:

Data visualization utilizing AI tools presents a compelling solution to the challenges posed by the ever-expanding volumes and complexities of data in today's digital landscape. By harnessing the capabilities of artificial intelligence, data visualization transcends mere static representations of numbers, evolving into a dynamic, intelligent process that uncovers concealed insights and facilitates data-driven decision-making.

One of the primary drivers for integrating AI into data visualization is its proficiency in managing extensive datasets swiftly and efficiently, automating the processes of analysis and visualization. This not only saves time but also enables users to concentrate on interpreting insights rather than grappling with the data itself. Furthermore, AI-powered tools excel in detecting patterns, trends, and anomalies within the data, enabling users to extract deeper insights that might have otherwise remained unnoticed.

Moreover, AI has the capacity to personalize visualizations based on user preferences and objectives, rendering the information more accessible and actionable for a diverse array of stakeholders. Ultimately, the impetus behind leveraging data visualization with AI tools lies in its potential to empower organizations to extract meaningful insights from their data, foster innovation, and make well-informed decisions in a rapidly evolving business landscape.

Scope:

The scope of data visualization using AI tools is vast and constantly evolving, promising significant advancements in how data is analyzed, interpreted, and communicated. AI-powered data visualization tools hold immense potential across diverse domains, including business intelligence, healthcare, finance, marketing, and scientific research. These tools empower organizations to unveil concealed insights and patterns within extensive and intricate datasets, thereby facilitating data-driven decision-making processes.

By automating tasks such as data analysis, pattern recognition, and visualization design, AI algorithms enable users to efficiently generate visually captivating representations of their data without the need for extensive manual intervention. Furthermore, AI-driven recommendation systems aid users in selecting suitable visualization types and design elements tailored to their specific objectives and audience.

The integration of AI techniques such as natural language processing (NLP), machine learning, and computer vision enhances the interactivity, personalization, and predictive capabilities of data visualization tools. As AI continues to progress, the scope of data visualization using AI tools is poised to expand further, offering innovative solutions to address increasingly complex data challenges and empower users with actionable insights.

6. METHODOLOGIES LEARNT IN INTERNSHIP

Introduction to Machine Learning: Machine learning algorithms are applied to analyze patterns and relationships in data, which can then be visualized to gain insights. Techniques such as clustering, classification, regression, and dimensionality reduction are often used in conjunction with visualization tools to uncover hidden structures and trends within datasets.

Pre-Internship Preparation:

Describe any prerequisites or preparatory steps taken before starting the internship.

Detail any pre-existing knowledge or skills related to Machine learning.

Internship Curriculum:

Provide a breakdown of the curriculum or learning path followed during the internship.

Hands-on Experience:

Describe the practical exercises, projects, or labs completed during the internship.

Highlight any challenges encountered during hands-on activities and how they were overcome.

Mentorship and Guidance:

Discuss the role of mentors or supervisors during the internship.

Describe how mentors provided guidance, feedback, and support throughout the learning process.

Reflect on the value of mentorship in enhancing understanding and skill development.

Collaborative Projects and Teamwork:

Detail any collaborative projects or team activities undertaken during the internship.

Discuss the importance of teamwork in cloud computing and how it was fostered during the internship.

Share insights gained from working with peers and contributing to group projects**.**

7. OUTCOME/RESULTS OF INTERNSHIP

Insight Discovery: AI-powered data visualization tools can uncover hidden patterns, trends, and insights within complex datasets that may not be readily apparent through manual analysis. By employing advanced algorithms for data analysis and pattern recognition, these tools can reveal valuable insights that drive informed decision-making.

Efficient Data Exploration: AI tools can automate the process of exploring and visualizing large volumes of data, allowing users to quickly identify key trends and anomalies. This efficiency enables organizations to make data-driven decisions in real-time and respond promptly to changing market conditions.

Personalized Visualizations: AI algorithms can analyze user preferences, data characteristics, and contextual information to generate personalized visualizations tailored to individual needs. By presenting relevant insights in a user-friendly format, personalized visualizations enhance comprehension and decision-making across diverse stakeholders.

Predictive Analytics: Some AI-powered data visualization tools incorporate predictive analytics capabilities, enabling organizations to forecast future trends, outcomes, and events based on historical data patterns. By visualizing predictive insights, decision-makers can anticipate market shifts, identify opportunities, and mitigate risks proactively.

Interactive and Dynamic Visualizations: AI-driven tools can create interactive and dynamic visualizations that allow users to explore data from different perspectives, drill down into specific details, and uncover deeper insights. These interactive features enhance user engagement and facilitate collaborative decision-making processes.

Automated Report Generation: AI tools can automate the generation of reports and dashboards, reducing the time and effort required to compile and analyze data manually. By automatically updating visualizations in response to new data inputs, these tools ensure that decision-makers have access to the most up-to-date information at all times.

8. SUGGESTIONS FOR IMPROVEMENT BY INDUSTRY

In the dynamic realm of data visualization using AI tools, continual advancement is imperative to fully harness the potential of these technologies and make a meaningful impact across industries. An essential aspect for improvement lies in enhancing the interpretability and explainability of AI-powered visualizations.As AI algorithms grow more sophisticated in analyzing complex datasets and generating insights, it becomes crucial to ensure that the rationale behind the visualizations is transparent and understandable to users. This entails developing methods to offer context-specific explanations for AI-generated visualizations, elucidating the underlying data patterns, and conveying the confidence levels of predictive insights.Furthermore, there's a pressing need to address biases and limitations inherent in AI algorithms to ensure that visualizations accurately reflect the underlying data and avoid perpetuating existing biases. Additionally, integrating AI tools with advanced natural language processing (NLP) capabilities can empower users to interact with visualizations using conversational interfaces, facilitating intuitive exploration and comprehension of intricate data relationships.By prioritizing these areas of enhancement, the industry can unlock fresh opportunities for leveraging AI-driven data visualization to inform decision-making, foster innovation, and cultivate data-driven insights across diverse domains.

9. CONCLUSION

In conclusion, data visualization plays a crucial role in transforming complex data into actionable insights, enabling informed decision-making across various industries. By leveraging AI tools, organizations can enhance the efficiency and effectiveness of data visualization processes, uncovering valuable patterns and trends hidden within large datasets. Simultaneously, Placement Assistance Programs (PAPs) provide vital support to individuals seeking to transition into the workforce, offering guidance, resources, and networking opportunities to facilitate successful employment outcomes. Together, the integration of AI-driven data visualization techniques and PAPs empowers organizations and individuals alike to navigate the evolving landscape of data-driven decision-making, driving innovation and fostering growth in the digital era.

REFERENCES

[1] https://bit.ly/Datavisuals
[2] https://bit.ly/IBMPAP

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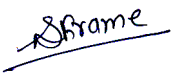
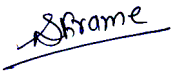
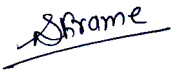
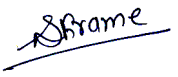
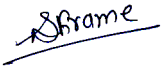
ANNEXURE I
INTERNSHIP DIARY

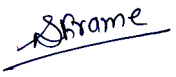
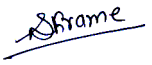
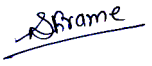
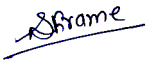
Name of Student: Rugved Sunil Malghe

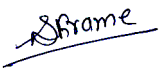
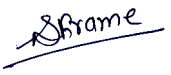
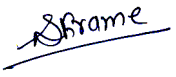
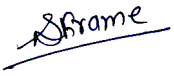
Mode of Internship: Online

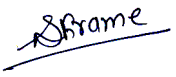
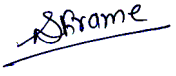
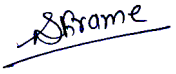
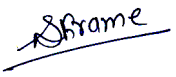
Name of Supervisor: Tushar Sharma

Name of Organization: CSRBOX

Sr. No.	Date	Description of Activities done during the day, Knowledge acquired, Practical Skills obtained and plan for next day	Signature of Supervisor	Signature of Faculty Coordinator
1	21/12/23	Data analysis | Khan Academy 1 hour https://skills.yourlearning.ibm.com/activity/URL-12D0B88BBD10	NA	
2	22/12/23	Google Analytics for Beginners | Google Analytics Academy 4 hour https://skills.yourlearning.ibm.com/activity/URL-35180AEB2E22	NA	
3	23/12/23	Google Analytics for Beginners | Google Analytics Academy 4 hour https://skills.yourlearning.ibm.com/activity/URL-35180AEB2E22	NA	
4	24/12/23	Google Analytics for Beginners | Google Analytics Academy 4 hour https://skills.yourlearning.ibm.com/activity/URL-35180AEB2E22	NA	
5	25/12/23	What is data science? https://skills.yourlearning.ibm.com/activity/ILB-VQNVGKNRKDYX44W6	NA	

6	26/12/23	Top 10 Data Analytics Tools 2020 | Best Tools for Data Analysis | Data Analytics Training | Edureka 13 min https://skills.yourlearning.ibm.com/activity/URL-P-BKQFKHQR8	NA	
7	27/12/23	Data Visualization with Python 3 hour https://skills.yourlearning.ibm.com/activity/SN-COURSE-V1:COGNITIVECLASS+DV0101EN+V2	NA	
8	28/12/23	Data Visualization with Python 3 hour https://skills.yourlearning.ibm.com/activity/SN-COURSE-V1:COGNITIVECLASS+DV0101EN+V2	NA	
9	29/12/23	Machine Learning with Python 3 hour https://skills.yourlearning.ibm.com/activity/SN-COURSE-V1:BDU+ML0101EN+V4	NA	
10	30/12/23	Machine Learning with Python 3 hour https://skills.yourlearning.ibm.com/activity/SN-COURSE-V1:BDU+ML0101EN+V4	NA	
11	31/12/23	Learning Linkedin | Linkedin 1 hour 28 min https://skills.yourlearning.ibm.com/activity/URL-A7A81EE72408	NA	
12	1/1/24	Learning Linkedin | Linkedin 1 hour 28 min https://skills.yourlearning.ibm.com/activity/URL-A7A81EE72408	NA	

13	2/1/24	Interpersonal Skills https://skills.yourlearning.ibm.com/activity/ILB-GYEQRZJQNMVJ32MB	NA	
14	3/1/24	Improve Your Resume Writing with Generative AI 40 min https://skills.yourlearning.ibm.com/activity/ILB-XVZNEXKGDVQN2PD3?planId=PLAN-D98EDBA385AF&sectionId=SECTION-B&planIdFromParentTab=PLAN-D98EDBA385AF&sectionIdFromParentTab=SECTION-B&planIdForChildTab=PLAN-D98EDBA385AF	NA	
15	4/1/24	Present with Purpose 2 hour 35 min https://skills.yourlearning.ibm.com/activity/ILB-QPDKNWEKJEPN2QPX	NA	
16	5/1/24	Present with Purpose 2 hour 35 min https://skills.yourlearning.ibm.com/activity/ILB-QPDKNWEKJEPN2QPX	NA	
17	6/1/24	Interpersonal Skills https://skills.yourlearning.ibm.com/activity/ILB-GYEQRZJQNMVJ32MB	NA	
18	7/1/24	Collaborate Effectively https://skills.yourlearning.ibm.com/activity/ILB-NKQEJMVEKJJQ3YJM	NA	
19	8/1/24	Deliver Quality Work with Agility https://skills.yourlearning.ibm.com/activity/ILB-NKQEJMVENXWRPN8D?planId=PLAN-DFB539AC00FA&sectionId=SECTION-C&planIdFromParentTab=PLAN-DFB539AC00FA&sectionIdFromParentTab=SECTION-C&planIdForChildTab=PLAN-DFB539AC00FA	NA	

20	9/1/24	Solving Problems with Critical and Creative Thinking 1 hour 50 min https://skills.yourlearning.ibm.com/activity/ILB-NKQEJMVEMYDQ3GYE?planId=PLAN-DFB539AC00FA&sectionId=SECTION-C&planIdFromParentTab=PLAN-DFB539AC00FA&sectionIdFromParentTab=SECTION-C&planIdForChildTab=PLAN-DFB539AC00FA	NA	
21	10/1/24	Solving Problems with Critical and Creative Thinking 1 hour 50 min https://skills.yourlearning.ibm.com/activity/ILB-NKQEJMVEMYDQ3GYE?planId=PLAN-DFB539AC00FA&sectionId=SECTION-C&planIdFromParentTab=PLAN-DFB539AC00FA&sectionIdFromParentTab=SECTION-C&planIdForChildTab=PLAN-DFB539AC00FA	NA	
22	11/1/24	Assignment	NA	
23	12/1/24	Assignment	NA	
24	13/1/24	Assignment	NA	
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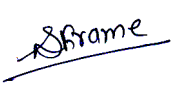
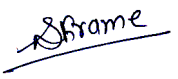
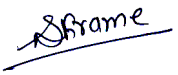
28	17/1/24	Assignment	NA	

29	18/1/24	Assignment	NA	
30	19/1/24	Assignment	NA	

ANNEXURE II
ATTENDANCE RECORD

Sr. No.	Date	Attendance
1	21/12/23	Present
2	22/12/23	Present
3	23/12/23	Present
4	24/12/23	Present
5	25/12/23	Present
6	26/12/23	Present
7	27/12/23	Present
8	28/12/23	Present
9	29/12/23	Present
10	30/12/23	Present
11	31/12/23	Present
12	1/1/24	Present
13	2/1/24	Present
14	3/1/24	Present
15	4/1/24	Present
16	5/1/24	Present
17	6/1/24	Present
18	7/1/24	Present
19	8/1/24	Present
20	9/1/24	Present
21	10/1/24	Present
22	11/1/24	Present
23	12/1/24	Present
24	13/1/24	Present
25	14/1/24	Present
26	15/1/24	Present
27	16/1/24	Present
28	17/1/24	Present
29	18/1/24	Present
30	19/1/24	Present

ANNEXURE III
EVALUATION SHEET

Grading Areas	Max. Score	Score Given
Attended work as schedule	10	9
Arrived on time	10	9
Stayed on the job as scheduled	10	9
Participated in activities as requested	10	9
Followed Instructions	10	10
Used appropriate manners and behavior	10	10
Possessed a positive attitude about the experience	10	10
Showed respect towards others	10	10
Appeared enthusiastic about the internship opportunity	10	10
	90	86

ANNEXURE IV
INTERNSHIP FEEDBACK

STES's
Sinhgad Institute of Technology and Science Pune
Department of Information Technology
Academic Year 2023-24

Student Internship Feedback from Supervisor/Employer

Student/Intern Name: Rugved Malghe
Organization Name: IBM CSRBOX
Dates of Internship: 22/12/2023
Supervisor Name: Tushar Sharma
Supervisor Contact Details: 95603 52170

This form is intended to help interns learn more about their strengths and the areas they might need to develop to be successful in the workforce after graduation. Supervisors are requested to complete the form and review it with their intern in a scheduled one-to-one meeting. Please evaluate your intern in the following areas:

	Excellent	Good	Satisfac tory	Need Improve ment
Critical Thinking/Problem Solving:				
Shows a sincere interest in understanding the organization, their role, and their assigned tasks	**Y**			
Practices sound judgment based on available information		**Y**		
Demonstrates creativity in approaching tasks, solving problems, and overcoming obstacles	**Y**			
Seeks out resources and/or asks for help when		**Y**		

unsure about how to proceed on tasks				
Communication/Leadership:				
Clearly and efficiently conveys ideas orally to persons inside and outside the organization	**Y**			
Communicates ideas clearly in writing in a manner suited to the intended audience	**Y**			
Manages their own emotions and works to understand and empathize with others	**Y**			
Takes initiative and seeks opportunities to contribute		**Y**		
Teamwork/Collaboration/Interculural Fluency:				
Builds constructive working relationships with individuals		**Y**		
Demonstrates inclusiveness, sensitivity, and respect for individuals' differences	**Y**			
Contributes effectively to collaborative projects	**Y**			
Adapts well to emerging requests from managers, coworkers, and customers	**Y**			
Professionalism/Work Ethic/Technology:				
Demonstrates respect for organizational staff, policies, and norms	**Y**			
Maintains a regular schedule, makes up missed hours, and is punctual and present		**Y**		
Organizes and priorities work, manages time, and sees tasks through from start to finish		**Y**		

Identifies and effectively uses appropriate technologies and programs to complete work	**Y**			
Career Management:				
Accepts constructive feedback from others and is able to learn from mistakes	**Y**			
Self-advocates in a professional manner	**Y**			
Can identify their strengths and weaknesses		**Y**		
Can articulate next steps to further prepare them for their future		**Y**		