**Internship Report**

**Data Analyst Internship/Project work at Hyundai**

Presented by Nihith Wudali

Signature of the incharge

**Introduction**

I worked as a data analyst intern at Hyundai from June 5th , 2023, to August 16, 2023. During this period, I was assigned to the Data Analytics department, where I had the opportunity to learn practical skills as a data analyst intern and expand my knowledge in this field.

I also gained experience in the IT field where an introduction regarding SAP, MES and how ABAP is used in handling data.

**Objectives**

At the beginning of my internship, an overview on MES (Manufacturing Execution System) , and analyse the data using ABAP (Advanced Business Application Programming) which is a programming language made by a German company SAP which is specially used and customized for business purposes.

Coming to data analytics part, our main objective was to apply the theoretical knowledge I had acquired in data analysis to real-world scenarios and to broaden my understanding of the role of data analysis in the automotive industry. A project is also given where data of a company was given and we were expected to visualize the data in the forms of graphs and provide some analysis and possible suggestions on how the company can invest or refocus it’s investments in certain states in order to increase it’s growth rate and earn more revenue.

**Overview of Project**

**During this internship, I worked on a project on data analytics where the data of sales of the company was given and the company was facing the issue of having a lower growth rate (5%) when compared to the ones of the other companies (8%)**

**The objective was to analyse the data, find any possible inconsistencies and suggest measures to tackle the issues and possibly increase the growth rate.**

**Contribution:**

**The data was provided in excel and I analysed the data and created a static dashboard and also created visualizations of the data provided.**

**I also used k-means algorithm where centroids were assumed and 3 clusters were selected from the scatter plot created from the revenue (from different states) column of the provided data. The mean and standard deviations and as well as the upper and lower limits of the 3 clusters were selected and a special focus was given to the states that were below the lower limit of the clusters.**

**Also, I made a classification tree in order to filter out the states that were not profitable enough. The state was filtered out and was analysed and I suggested some measures to improve the situation there.**

**I also created a python program to automate the data. The program reads the excel sheet and presents the visualized form of the data in bar and scatter plots. I also included filtering out of the state for specific conditions and creating new Excel sheets for easier accessibility thus simplifying the existing data into much more accessible form.**

**With the libraries such as pandas and sci-ki-learn I employed K-means clustering algorithm in python and divided the data into different clusters. The obtained data was then exported as separate Excel files.**

**I faced some challenges along the way like when Python was unable to read the excel file due to some error. However, with the help of my superiors and some file manipulation technique, I was able to overcome that difficulty.**

**Skills and Knowledge Acquired**

During my internship, I acquired and improved the following skills and knowledge:

* Proficiency in Python for data analysis, including libraries such as Pandas, NumPy, and scikit-learn.
* Experience with machine learning algorithms (k-means) for regression and clustering tasks.
* Statistical analysis
* Data visualization using tools like matplotlib
* Proficiency in Excel for data analysis.

**Lessons Learned**

**During my time here, learnt some new clustering techniques, the complexities involved in the data like the small inconsistencies that might appear and the ways to solve them. I also learnt that effective communication and active collaboration are essential for completing these type of projects.**

Continuous learning and staying updated with industry trends and tools are crucial for a data analyst's professional growth.

**Conclusion**

My internship at Hyundai as a data analyst intern was a valuable experience that allowed me to apply my knowledge in a practical setting. I am grateful for the opportunity to work on meaningful projects and contribute to Hyundai's data analytics initiatives. The skills and knowledge I gained during this internship will definitely help me in the future.

I would also like to thank my superiors and my fellow interns who have helped me in this internship project and I am highly grateful to Hyundai for providing me this opportunity to work here as a data analyst intern.

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