

## ACKNOWLEDGEMENT

We express our profound gratitude to **Hon'ble Management and Dr. S Muralidhara**, Principal, BMSCE, Bengaluru for providing the necessary facilities and an ambient environment to work.

We are grateful to **Dr. Gowrishankar**, Professor and Head, Department of Machine Learning, Bengaluru, for his valuable suggestions and advice throughout my work period.

We would like to express our deepest gratitude and sincere thanks to my guide **Dr. Monika P**, Assistant Professor, Department of Machine Learning, Bengaluru, for her keen interest and encouragement in guiding me and bringing the work to reality.

We would like to thank all the **Staff**, Department of Machine Learning for their support and encouragement during the course of this Internship.

Last but not the least, we would like to thank our parents, family and friends, without whose help and encouragement this work would have been impossible.

# ABSTRACT

In today's competitive business landscape, understanding customer feedback has become crucial for organizations to improve their products and services and enhance customer satisfaction. This project presents an innovative approach to analyse and derive valuable insights from customer feedback data using advanced data analysis techniques.

The project begins by collecting a substantial dataset comprising 60,000 rows and 19 columns of customer feedback from event feedback reviews. The dataset undergoes rigorous validation and preprocessing to ensure data quality and consistency.

To address the challenge of high dimensionality and extract meaningful patterns, Principal Component Analysis (PCA) is applied. PCA reduces the data's dimensionality while retaining its essential information, facilitating efficient visualization and interpretation. K-means clustering algorithm is employed to segment the customer feedback into distinct clusters based on shared characteristics. Each cluster represents a group of customers with similar feedback sentiments and preferences.

The clustered data, along with the results of PCA, are integrated into Power BI, a powerful business intelligence tool. Power BI is utilized to create interactive and visually engaging dashboards, enabling users to explore and interpret the clustered customer feedback data effectively.

Through insightful cluster trait analysis, the project uncovers unique patterns, sentiments, and preferences associated with each customer feedback cluster. These findings empower businesses to make data-driven decisions and derive actionable recommendations for product optimization, service enhancements, and targeted marketing strategies.

The project's outcomes include enhanced customer understanding, improved product offerings, and increased customer satisfaction, all contributing to the organization's growth and success in the market.

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