ML-POWERED SENTIMENT ANALYSIS FOR A MEDICAL RESEARCH ORGANIZATION

SENTIMENT ANALYSIS OF SURVEY RESULTS SAVES SIGNIFICANT TIME AND EFFORT

CUSTOMER PROFILE

HQ

Chevy Chase, MD

INDUSTRY

Research Services

EMPLOYEES

2,300

ITC SERVICES

Artificial Intelligence and Machine Learning

APPLICATIONS & TECHNOLOGIES

- **Python**
- **Tableau**

INTRODUCTION

The client is a prominent American non-profit medical research organization dedicated to advancing biomedical research and education. They are one of the largest private philanthropies in the world, supporting the work of scientists and researchers across various institutions, fostering groundbreaking discoveries in the life sciences.

CHALLENGES

The client organized an employee training session and conducted a feedback survey to gauge satisfaction levels regarding the training. The survey generated a large amount of data, making manual analysis impractical. Therefore, the client sought to implement a machine learning solution for sentiment analysis to automate and streamline the task.

SOLUTION

IT Convergence conducted thorough testing of various machine learning models in the Python library to identify the most suitable option for sentiment analysis. After rigorous evaluation, we shortlisted two ML models as they fit the requirements. Subsequent testing with a small dataset revealed that one of them consistently delivered more accurate results, leading to its selection.

The data underwent a cleaning process to address formatting issues and the model analyzed the data, accurately classifying sentiments as positive, neutral, and negative. We created a word cloud, where the size of each word indicated its frequency within the dataset. The client could now visualize the most important words in the survey and identify patterns that indicated sentiment. This information was presented through visualizations on a custom Tableau dashboard, providing an accurate representation of the sentiment analysis results.

RESULTS

- Automated the sentiment analysis process, saving valuable time and effort for the IT team
- Instantaneous analysis of survey results, eliminating hours of manual effort through process automation and better visualization
- Leveraged open-source tools, eliminating the need for licensing fees in the process
- Accurately measured user satisfaction with the training session

ITC ADVANTAGE

- **Expertise in Python-based machine learning solutions**
- **Advanced AI/ ML capabilities and experience in executing similar projects**

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