Enhancing HCL Tech's AION Platform with Advanced Data Visualization

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Abstract

This report proposes a new feature for HCL Tech's AION platform: the ability that will allow users to visualize their business data and explain the detailed breakdown of the visualizations using natural language prompts. The new feature will be implemented using a large language model (LLM) that has been trained on a massive dataset of text and code. The LLM will be able to generate all kinds of visualizations, such as bar charts, pie charts, histograms, and pictograms, according to the user's prompt. The LLM will also be able to explain the detailed breakdown of the visualizations if the user wants to know it by prompting it. The model will be versatile, which means it can visualize or explain anything about the data provided by the user i.e. from any portion of the dataset.

1 Introduction

HCLTech's AION platform is a low-code/no-code AI lifecycle management platform that helps enterprises go from raw dataset ingestion to a deployable ML model. AION provides a variety of features to help users develop and deploy ML models, including data preparation, feature engineering, model training, and model deployment data visualization.

Data visualization is one of the key capabilities of the AION platform. AION provides a variety of tools that allow users to create and share interactive visualizations of their data.

However, adding a prompt-based visualization and explanation feature to AION would provide users with a powerful way to gain insights from their data. Users would be able to simply prompt AION to generate a visualization or explanation of their data, and AION would automatically select the appropriate visualization type and generate a detailed explanation if requested.

2 Proposed Feature

The proposed feature would allow users to:

1. Visualize their data using a variety of chart types, such as bar charts, pie charts, histograms, and pictograms, simply by prompting the model. For example, a user could prompt the model to "Show me a bar chart of sales by region." The model would then analyze the user's data and generate a bar chart showing the total sales for each region.

2. Explain the detailed breakdown of any visualization, again using natural language prompts. For example, a user could prompt the model to "Explain the bar chart of sales by region." The model would then generate a text explanation of the bar chart, such as "The bar chart shows that the North region had the highest sales, followed by the South region and the East region."

3. Visualize or explain anything about the data provided by the user, from any portion of the dataset. For example, a user could prompt the model to "Show me a line chart of sales over time for the top 10 customers." The model would then analyze the user's data and generate a line chart showing the sales over time for the top 10 customers.

3 Benefits of adding the proposed feature

Adding this feature to the AION platform would have many benefits, including:

- Making the platform more accessible to a wider range of users, including business users and citizen data scientists who may not have the technical skills to create their visualizations or explanations.

- Making the platform more versatile and powerful, allowing users to explore and understand their data in new and innovative ways.

- The feature would make the AION platform more engaging for users because it would allow them to interact with their data more naturally.

- It would enable users to gain insights from their data more quickly and easily, which would lead to increased productivity and better decision-making.

- It would also make the AION platform more competitive with other AI lifecycle management platforms.

4   Implementation

The new feature will be implemented using a large language model (LLM) that has been trained on a massive dataset of text and code. The LLM will be able to generate all kinds of visualizations, such as bar charts, pie charts, histograms, and pictograms, according to the user's prompt. The LLM will also be able to explain the detailed breakdown of the visualizations if the user wants to know it by prompting it.

The model will be versatile, which means it can visualize or explain anything about the data provided by the user i.e. from any portion of the dataset.

5   Conclusion

Adding a new feature to the AION platform that allows users to visualize and explain their business data using natural language prompts will provide several benefits, including improved decision-making, making the platform accessible to a wider range of users, increased productivity, and improved collaboration.