

Scenario 1

You are part of a consulting firm tasked with assisting Health4All, an organization dedicated to improving patient understanding of their medical diagnoses. Health4All has developed a large language model (LLM) that utilizes a curated database containing information about symptoms, possible treatments, and disease implications. The goal is to translate complex medical terminology into simple, everyday language, making it easier for patients to comprehend their diagnoses and treatment options. Despite the promising design, initial user testing revealed significant challenges: many patients struggled to understand the information presented by the LLM. Health4All is eager to identify the underlying reasons for this confusion and determine which LLM variant performs best in communicating effectively with laypeople.

Scenario 2

You are working for the government and have identified a significant challenge: many employees need to understand statistics related to demographics in Germany. For example, this understanding is crucial for planning hospital capacities, as they must assess the risks of health complications and predict future needs. Currently, employees often create bar plots, line plots, and box plots to visualize this data. However, you have observed that some users struggle with interpreting box plots accurately, leading to potential errors in their analysis. To address this issue, you are tasked with investigating how different visualization types impact users' understanding. Your goal is to determine which visualization method leads to the most accurate interpretation of data and, ultimately, to improve the quality of future decisions made by government employees.

Scenario 3

You recently joined a company specializing in high-quality kitchen appliances, which has seen an unexpected surge in sales. You suspect this may stem from a flaw in the product recommendation algorithm. Currently, customers see items that are complementary in color to their purchases; for example, a customer with a violet couch is shown only violet and yellow kitchen appliance designs. The original algorithm aimed to recommend items based on what others bought, which did not boost sales. This raises questions about which algorithm is better for a small customer base and its scalability. To determine which recommendation algorithm drives sales more effectively, you plan to conduct an experiment to compare the current complementary color algorithm with the original one based on customer purchase patterns.