Uses of generative AI in data analytics

So far, you've learned that data analytics in cloud computing comes with many options for processing data. As artificial intelligence (AI) becomes mainstream, there are more options for using AI in data analysis. Generative AI is the use of AI to create new content, like text, images, audio, and video through the training of models. In this reading, you'll learn more about generative AI for data analysis.

Generative AI and data analytics

Generative AI can support existing data analysis tools by generating data and extracting insights from existing data. On a practical level, generative AI may also be used to automate elements of the data pipeline.

Some uses of generative AI for data analysis include:

- Business intelligence
- Marketing analytics
- Data generation

Business intelligence

For example, a generative AI model can be used to perform the function of business intelligence. Generative AI models can be trained to develop prescriptive insights based on existing data.

Marketing analytics

Generative AI can be used to develop customer profiles, which can then be used as models for advanced marketing analytics.

Data generation

In industries where personal data is protected, and cannot be used in model creation, generative AI can be used to generate test data.

Generative AI for the data analyst

There are also practical, day-to-day uses for generative AI, including:

- Enterprise search
- Natural language queries
- Infobots

Enterprise search

Enterprise search enables you to search content and data across multiple sources in an organization. As a data analyst, you can use enterprise search to find the data you need from any department in your organization. For large organizations with multiple departments and varying software platforms to house data, enterprise search streamlines a data analyst's process in discovering data.

Enterprise search occurs in three stages: exploration, indexing, and search. In the exploration stage, the software reviews all the available data. In the indexing stage, the software tries to find relationships in the data. Finally, in the search stage, human users can access enterprise data with their native language. This means they don't have to use programming languages.

Enterprise search is enhanced by generative AI to improve search results. Artificial intelligence, including large language models, enables you to build enhanced enterprise searches for your own data. Training models on your company's data also enables you to develop enhanced search capabilities that generate more accurate results.

Natural language queries

When querying data and working in databases like BigQuery, you have to write your queries in a programming language, like SQL or Python. Generative AI programs, like Ask Looker and Google Gemini, allow you to input your data query in natural language. These programs will then generate the Python or SQL code that will enable you to query your dataset.

Infobots

In some cases, an infobot can be created to assist with data analysis. An infobot operates similarly to a chat, but instead of having a person on the other end of the conversation, a trained AI bot provides the answers. Infobots can search for data in an organization's database, format data, analyze data, and create data visualizations. Like other forms of generative AI, infobots have to be trained with existing data or examples.

Key takeaways

Generative AI provides resources to assist data analysts in their work. Generative AI provides solutions to work with data efficiently and effectively, from organization-wide solutions, like enterprise search and business intelligence, to individual solutions, like query support and infobots.

Resources for more information

To learn more about how generative AI can support your work as a data analyst, check out these links:

- To learn more about how to use enterprise search on Google Cloud: https://cloud.google.com/generative-ai-app-builder/docs/try-enterprise-search
- The International Institute of Business Analysis provides an overview of how Generative AI works with data analytics: https://www.iiba.org/business-analysis-blogs/how-ai-is-rewriting-the-rules-of-data-analysis/#