

# Popular Tools of Generative AI for Software Development

**Estimated Time: 30 mins**

## Objectives

After completing this reading, you will be able to:

- Define ChatGPT, its features, and limitations
- Describe GitHub Copilot, its features, and limitations
- Summarize the features and limitations of GPT
- Explain Bard, its features, and limitations

## ChatGPT

ChatGPT is an OpenAI creation known for its lifelike text generation. It excels in natural conversations, query elucidation, and creative writing support. It is widely used in customer support bots, content creation, and author brainstorming.

### Key features:

- Generates human-like text
- Engages in natural conversations
- Provides detailed answers and suggestions
- Supports creative writing with innovative ideas
- Responds contextually
- Offers natural language capabilities

### Use cases:

- Interactive chatbots for customer support
- Content creation and brainstorming

### Limitations:

- Potential for misinformation and bias
- Limited comprehension of the intricate context

## GitHub Copilot

GitHub Copilot revolutionizes coding with collaborative features and integration with popular code editors. It offers code snippets, explanations, and contextual guidance. It supports multiple programming languages and promotes adherence to coding best practices.

### Key features:

- Seamless integration with popular code editors
- Generates code snippets, explanations, and suggestions
- Improves coding efficiency with instant suggestions
- Supports multiple programming languages
- Learns from usage patterns

### Use cases:

- An educational tool for programmers
- Assist newcomers in understanding codebases
- Limitations:
- Some generated code may need refinement
- Reliance on external API
- Privacy concerns

## Watsonx.ai

Watsonx.ai is an advanced AI technology that offers various features and use cases. It is highly efficient in processing large volumes of textual data, saving time and resources. Its language translation capabilities enable global communication and collaboration, and the sentiment analysis feature helps businesses gain insights into customer opinions and preferences.

**Features:**

- Utilizes natural language processing (NLP) to understand and analyze human language, making it capable of processing vast amounts of textual data efficiently.
- Possesses machine learning capabilities, enabling it to learn from data patterns and improve its performance over time.
- Offers sentiment analysis, allowing users to determine the emotional tone of a piece of text.
- Provides language translation services, enabling seamless communication across different languages.
- Performs entity recognition, identifying and categorizing specific objects or elements within text.

**Use cases:**

- Customer support, to provide automated responses to frequently asked questions or routing inquiries to the appropriate departments
- Sentiment analysis in marketing and social media monitoring, helping businesses understand customer opinions and tailor their strategies accordingly
- Content analysis, assisting in summarizing large amounts of text or extracting key information from documents
- Language translation services facilitating communication between individuals who speak different languages
- Used in many industries such as healthcare, finance, and education, providing solutions to specific challenges within each sector

**Limitations:**

- Accuracy may vary depending on the complexity of the language or context it is processing.
- Implementation and integration of Watsonx.ai into existing systems may require technical expertise.

## GPT-4

GPT-4 is an advanced AI language model that excels in generating high-quality text across various subjects. It enhances content creation and empowers natural language processing tasks.

**Key features:**

- Offers high-quality text generation
- Provides coherent and nuanced responses
- Generates natural and human-like content
- Provides accurate handling of intricate questions and tasks
- Supports user control over tone, style, and specifics of generated text

**Use cases:**

- Content creation for writers, bloggers, marketers
- Natural language processing tasks
- Creative writing inspiration
- Limitations:
- Possibility of inaccuracies or biases
- Requires continuous monitoring

## Bard

Bard is a cutting-edge chatbot and content-generation tool developed by Google. It leverages LaMDA, a transformer-based model, to assist with software development, programming queries, drafting content, research, and study.

**Key features:**

- Uses LaMDA transformer-based model
- Provides limited-access waitlist in the US and UK
- Offers user response rating mechanism
- Provides integration with Google accounts
- Use cases:
- Idea brainstorming and code generation
- Content drafting and research assistance
- Study partner for complex concepts

**Limitations:**

- Lack of conversation history features, not accessible through Google account interface

**Summary**

In this reading, you learned that:

- ChatGPT is an OpenAI creation known for its lifelike text generation. It excels in natural conversations, query elucidation, and creative writing support.
- Watsonx.ai helps to process large volumes of textual data, saving time and resources, its language translation capabilities enable global communication and collaboration.
- GPT-4 is an advanced AI language model that helps to generating high-quality text, enhances content creation, and empowers natural language processing tasks.
- Bard is a cutting-edge chatbot and content-generation tool developed by Google. It leverages LaMDA, a transformer-based model, to assist with software development, programming queries, drafting content, research, and study.



# Skills Network