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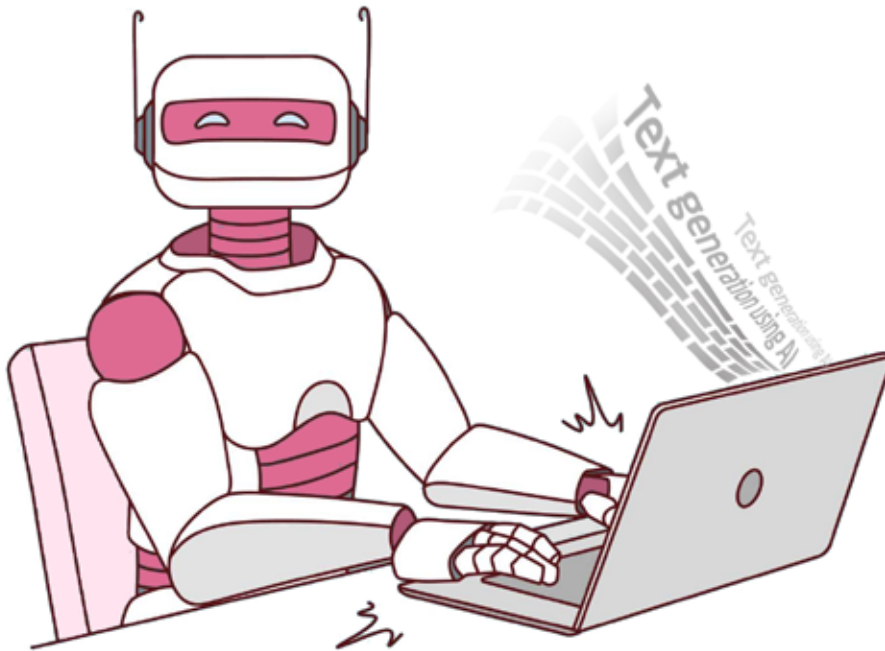Building An Advanced Load Balancer With NGINX

"With AI, cloud is no longer just about reducing costs"
–Dr Amruta Joshi, Director, AI Solutions, Google Cloud

AI Text Generators:
Helping You Write Better

There is little doubt that AI-based text generators enhance the readability of written content. Let's find out how they work.

We live in an era of artificial intelligence (AI), machine learning (ML), and chatbots. Machines are becoming smarter progressively, and interacting with them often feels very human. Even when we write a document, AI-based writing assistance like Grammarly scans the content to improve readability and remove any grammatical and spelling errors. It feels magical, right? Let's find out how AI-based text generators and writing assistance work and how they generate accurate and engaging content.

Text generation using AI

What is an AI text generator? It is a type of artificial intelligence software trained on massive text-based data, which can read, understand, and replicate human language patterns. Using deep learning techniques and recurrent neural networks, it can generate text based on the prompts as human-written text.

The next question is: how does it work? The answer: by using 'unsupervised learning'. An AI text generator predicts the next word in a sentence based on the words that precede it. This aids in the autonomous generation of contextually relevant text.

The 'prompts' and their structure and style play a significant role in getting accurate text output. By crafting effective prompts, machines can better understand the query and produce more accurate text/data based on it.

Accuracy and reliability of AI text generators

The accuracy of text generated by AI can depend on various factors such as:

- Quality of the trained data
- Model architecture
- Specific tasks it handles

Various metrics are used to assess the accuracy of AI text generators. Some of these are perplexity, BLEU/BERT score, and human evaluation.

Perplexity and BLEU can be categorised as automated metrics. Perplexity gauges the model's capacity to predict the next word in a sequence. Lower perplexity signifies that the generated text is less creative and more predictable.

The BLEU (Bilingual Evaluation Understudy) matrix assesses the similarity between the generated text and human-

written references. It also checks the precision and recall of n-grams (sequences of 'n' words).

The BERT (Bidirectional Encoder Representations from Transformers) metric compares the semantic similarity between human-written and AI-generated text, considering both word-level and sentence-level meanings.

Human evaluation employs a direct comparison technique to assess accuracy. Experienced human AI experts compare AI-generated text and evaluate factors such as fluency, content accuracy, and coherence.

Factors affecting human likeness of AI-generated text

Learning and analysis are key factors that help improve the naturalness and human-like quality of the generated text. To learn the natural language patterns and nuances, AI algorithms scan and analyse large amounts of human-generated text to understand them better. This data analysis enables AI platforms to generate natural and engaging content that closely resembles human-written content.

Like humans, continuous learning and fine-tuning of AI models help to reduce errors and improve the human likeness of the generated text. Periodic updates of these platforms help to adapt language trends and produce high-quality, context-relevant content.

The complexity of an AI model's architecture affects text accuracy. Compared to simpler models, advanced AI models with more parameters and deeper layers produce higher-quality text with greater accuracy.

Applications

Let's explore a few practical use cases of AI text generators. Here are some examples:

- *Blog posts and articles:* Generate articles on various topics.
- *Product descriptions:* Generate catchy product descriptions for e-commerce sites.
- *Social media content:* Create engaging social media posts and captions.
- *Email marketing:* Generate content based on target audience for email campaigns.

AI-generated content is widely used for educational purposes, such as creating learning materials, quizzes, and assignments. People learning new languages can utilise AI to create customised language-learning lessons and practice exercises. Students can use AI text generators to simplify complex content, generate drafts, and brainstorm ideas. END

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