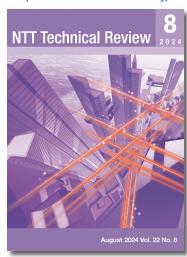
NTT Technical Review

https://www.ntt-review.jp/archive/2024/202408.html



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Shinichi Yokohama, Chief Executive Officer, NTT Security Holdings

Front-line Researchers

Kyosuke Nishida, Senior Distinguished Researcher, NTT **Human Informatics Laboratories**

Rising Researchers

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Feature Articles

R&D and Commercialization of NTT's Large Language Model "tsuzumi"

- NTT's LLM "tsuzumi"
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Extending Usability of Copper Cables Installed Underground by Using a Cable-retracting System

View from the Top

Shinichi Yokohama, Chief Executive Officer, NTT Security Holdings

▼Abstract –

In today's connected society, ensuring safety and security in cyberspace is an extremely tough challenge. NTT Security Holdings provides security services to clients on the basis of its proprietary cyber intelligence and threat-detection-and-response capabilities. We asked Shinichi Yokohama, chief executive officer of NTT Security Holdings and chief information security officer of the NTT Group, about the company's mission and strategy as well as his attitude as a top management.



Front-line Researchers

Kyosuke Nishida, Senior Distinguished Researcher, NTT **Human Informatics Laboratories**

▼Abstract -

Since ChatGPT, OpenAl's generative artificial intelligence (AI) chatbot, was released in November 2022, large language models (LLMs) have rapidly drawn worldwide attention, and new LLMs have been announced one after another. While the "bright side" of such LLMs, namely, high performance, has been brought to attention, their "dark side," namely, increased energy consumption, has also been pointed out. On November 1, 2023, NTT's LLM called "tsuzumi" was announced. It was developed with a particular vision in mind, creating a future in which many and small LLMs having different characteristics are combined, rather than creating one huge and monolithic LLM, to achieve social well-being through Al-human collaboration. Thus, tsuzumi has made it possible to achieve the bright side and address the dark side of LLMs simultaneously, and its commercial service was launched on March 25, 2024. We interviewed Kyosuke Nishida, a senior distinguished researcher at NTT Human Informatics Laboratories, about how the tsuzumi project was launched, features of tsuzumi, trends in LLMs, and his thoughts on the challenges of competing in a highly competitive market.



Feature Articles

R&D and Commercialization of NTT's Large Language Model "tsuzumi"

NTT's LLM "tsuzumi"

▼Abstract –

In November 2023, NTT announced tsuzumi, a large language model (LLM) based on NTT laboratories' over-40 years of accumulated research in natural language processing. The tsuzumi LLM excels in Japanese-language processing ability, and its key features include being lightweight and providing multimodal support, which enables handling of non-text media. Its lightweight model reduces power consumption and makes on-premises use possible. Its multimodal feature enables comprehension of photos and diagrams, distinguishing tsuzumi from other publicly available LLMs. In this article, we give an overview of tsuzumi on the basis of these key features.

