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PRESS RELEASE

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BlueMeme Inc.
Kyushu University

BlueMeme and Kyushu University Initiate Joint Research and Development of Network AI Statistical Analysis Platform

Pursuing expansion across diverse sectors such as healthcare and logistics

On December 1, 2023, Professor André Fujita (“Professor Fujita”), an expert in network statistics, assumed a position in the “Division of Network AI Statistics” established by BlueMeme, Inc. and Kyushu University. Simultaneously, the research and development of network AI statistical analysis officially started.

Within this division, Professor Fujita and his research team will focus on advancing research and development in network AI statistical analysis technologies, primarily within the biomedical field. Applying these technologies to logistics and other networks aims to address and optimize social issues by eliminating information fragmentation.

Background on the focus on network statistics

In recent years, the significance of “network data[i] analysis” has grown across diverse scientific, business, and societal domains. Networks[ii], intricate and varied structures, pose challenges in comprehension. There is a pressing need to devise new visualization and analysis techniques to unravel the intricate relationships among nodes and edges, and the intricate patterns within the entire network. Connecting these structures and patterns to specific meanings and processes proves challenging, and methodologies are currently insufficient.

Within the limited landscape of network data analysis methods, BlueMeme has directed its attention to “network statistics.” This methodology involves the objective interpretation of networks within a statistical framework, extracting and analyzing features as statistical parameters. Acknowledged for its ability to elucidate mechanisms, it excels in computational efficiency and technical proficiency. Furthermore, an extensive body of literature on the subject firmly supports its theoretical foundation.

Acceleration of R&D with Prof. Fujita

Professor Fujita, a leading expert in network statistics, has developed theories such as the Granger causality test and t-test for network data. These accomplishments have received international recognition, including awards in the United States, the United Kingdom, and Germany. Additionally, the software for network statistical analysis developed by Professor Fujita can be integrated into social infrastructures in various fields, given the improved computing power, such as GPUs, enabling faster analysis of network structures.

Development of network AI statistical analysis infrastructure

BlueMeme's future efforts will focus on network structure analysis in the biomedical domain. The insights gained into network statistics through this research will be utilized to build an analysis infrastructure for network AI statistics combined with AI. BlueMeme will actively incorporate its practical experience with Agile methodologies to rapidly deploy network AI statistics technology in society.

Significance of Deployment of Network AI Statistics to Logistics

The application of Network AI statistics holds promise for addressing complex networks, particularly within industries such as logistics. In Japan, an annual food loss of approximately 5.22 million tons amounts to a staggering loss of around 6.75 trillion yen. One significant factor contributing to this issue is the inadequate sharing of information across the entire supply chain, involving producers, wholesalers, and retailers. Fragmented data arises from the decentralized management of information on disasters, production volumes, demand forecasts, and other crucial aspects.

To tackle this challenge, utilizing Network AI statistics technology can pave the way for developing a system where comprehensive information about the entire supply chain, including optimal production volumes, demand forecasts, and suggestions for alternative production locations during disasters, is shared seamlessly.

Comments by Professor Fujita, Kyushu University

Many human behaviors and phenotypes arise from biological interactions. For example, cells and genes interact with each other. However, when these interactions are not smooth, there is a potential risk of diseases such as cancer and diabetes. The brain also plays a crucial role, with approximately 100 billion neurons forming complex networks. When these brain networks do not function properly, there is an increased risk of developing neurological disorders and mental illnesses such as autism and attention deficit hyperactivity disorder (ADHD). The objective of network statistics is to uncover the mechanisms underlying interactions, as outlined above, with the potential to inform the design of novel diagnostic approaches and treatment protocols. Furthermore, the applicability of network statistics extends across diverse domains, encompassing areas such as logistics and social networks.

i : Network Data: a set of networks.

ii : Network: an object composed of nodes and edges. It describes an organized structure where nodes are connected by edges. In computer networks, nodes can represent computers, while in social networks, people.

About BlueMeme

BlueMeme holds a prominent position in the Japanese low-code development market, having introduced OutSystems, a low-code development platform, for the first time in Japan in 2012. The company's unique development methodology, known as "AGILE-DX," enables the effective implementation of Agile and low-code practices. BlueMeme is dedicated to enhancing the international competitiveness of Japanese businesses by leveraging the latest technologies for next-generation information system development and achieving digital transformation (DX) to

adapt to disruptive changes. As of 2021, BlueMeme is listed on the Tokyo Stock Exchange under the corporate code “4069.”
URL ：https://www.bluememe.jp/

About Kyushu University
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The impact of this matter on business results will be minor.

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