Artificial Intelligence: A key enabler for 6G mobile network

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Abstract

Artificial Intelligence (AI) is another promising key technology for 6G networks. AI could play a crucial role in the development of 6G networks by enabling more intelligent network management and optimization, as well as supporting advanced applications such as autonomous vehicles and smart cities.

Ⅰ. Introduction

AI and 6G communication technology will be evolutionized from connecting the things to connecting intelligence, result in emergence of intelligent IoE. AI including Federated learning, Machine learning, Deep learning, Big Data and many more aspects are brought out together to prepare for an intelligent communication network 6G [1].

Ⅱ. AI: A key enabler for 6G mobile networks

AI can help in predicting network traffic, analyzing user behavior, and optimizing network resources to provide seamless connectivity, high reliability, and low latency. Additionally, AI can facilitate real-time decision-making in various applications, enabling faster and more efficient communication [2][3].

However, ensuring that 6G networks have the necessary computational resources to support AI applications will be a key challenge. AI requires access to large amounts of data to train and optimize models, but this data often contains sensitive information. Ensuring data privacy will be a critical challenge for 6G networks that rely on AI, particularly as regulations around data protection become increasingly strict [1].

Ⅲ. Conclusion

AI is a key enabler for 6G mobile network. Researchers are exploring ways to develop more energy-efficient AI algorithms and improve the interoperability of different AI and ML systems such as federated learning, interpretable machine learning, and so on to ensure their effective integration with 6G networks [4].

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