

GENERATIVE AI AND FEDERATED LEARNING FOR PRIVACY PRESERVANCE IN HEALTHCARE

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ABSTRACT:

Generative ai and federated learning can be used in not only in healthcare but also in other fields to protect and make original data secure.Here I am taking only example field of healthcare to demonstrate this idea,as anything transferred from one place to another can be leaked in the way.like this in federated learning also there the chances to get leaked the original data.So first the original data is converted to artificial data and then in federated learning process artificial data is applied.

METHODOLOGY:

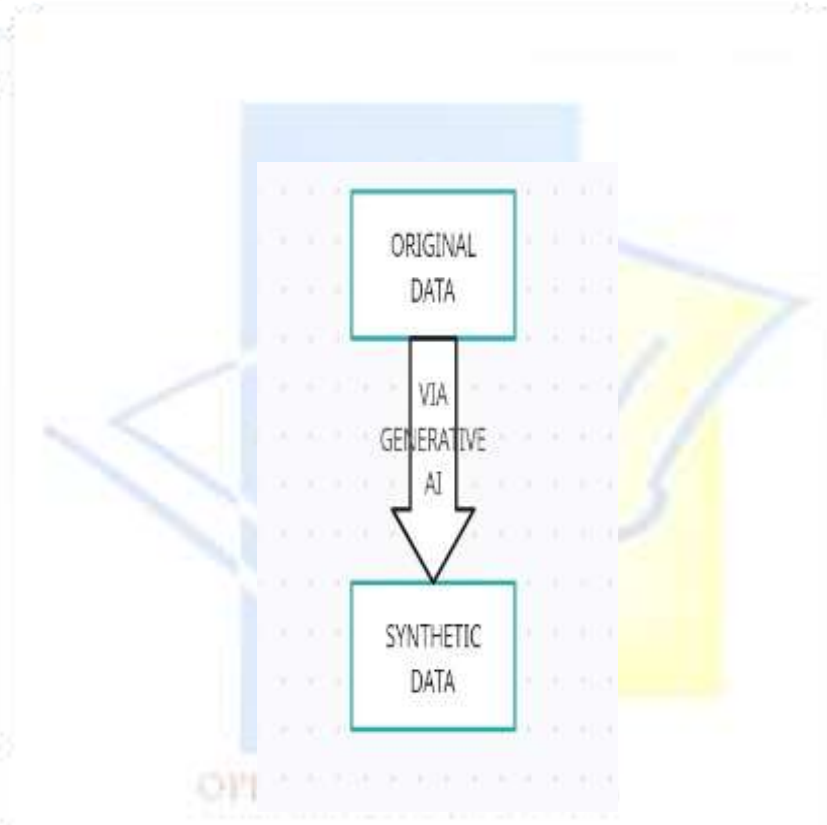


Fig-1:GENERATIVE AI

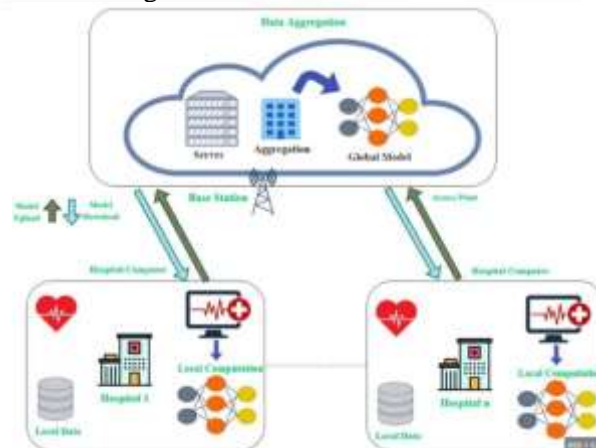


Fig-2:Federated Learning Process

Here:

1. Original data is taken.
 2. Using generative AI technique original data is converted to artificial data similar to original data.
 3. For federated learning process synthetic data is taken.
- In this way data privacy is maintained.

In the above figure medical original data is taken from one of the healthcare field and using generative AI artificial data is produced. This artificial data is taken in federated learning process. Like this data privacy is maintained.

CONCLUSION:

Conclusion here is using generative AI artificial data is produced and used in federated learning process, this provides original data security.

REVIEW OF RELATED STUDIES:

This concept can be generalized to all fields where original data security is needed. Here I have taken only example of healthcare data.

RECOMMENDATIONS:

This concept can be generalized to all fields where original data security is needed.

- BIBLIOGRAPHY:
1. Research papers about generative AI and Federated learning.
 2. Fig-2 from google.com

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