

Non-Invertible Deceptive Infusion of Data (DIOD) Methodology for Critical Data Communication

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Categories:

- Computer Technology

Keywords:

- Artificial Intelligence
- Communications
- Communications and Computing
- Data
- Data Processing
- Sharing and Exchange

Due to the potential threat of data reverse-engineering to find sensitive information, owners of critical infrastructure that seek to leverage the benefits of AI to automate functions and processes are often reluctant to share information with third parties. Now, researchers at Purdue University have created a novel scalable and efficient data masking paradigm for the secure exchange of data pertaining to critical infrastructure. The approach obfuscates the identity and critical data of the system through an innovative mathematical algorithm that transforms the data in a manner that preserves the information relevant to AI and misleads unscrupulous third parties attempting to reverse-engineer the data to an entirely different benign system. The approach to the problem represents a paradigm shift for the field and contrasts with existing data masking tools such as encryption and substitution which often render the data unusable for AI.

Advantages:

- Allows for critical data to be given to a third party (ex. contractor, customer, etc.) without compromising details regarding the source system
- Doesn't impact the application of AI on the final dataset
- Addresses several data sharing legal and export concerns
- Facilitates seamless flow of data between data owners and users

Applications:

- Critical data communication
- Data sharing
- Data privacy
- Government/Corporate Intelligence

People:

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Intellectual Property:

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