

understanding synthetic data in digital advertising

the rise of synthetic data

Purpose: To inform and support industry best practices



what is synthetic data?

Definition: Artificially generated data that mimics real-world data without personal information.

Creation: Generated using algorithms trained on real datasets (e.g., GANs (Generative Adversarial Networks), AI models).

applications across industries

Automotive: Car maker's virtual factory for optimising assembly.

Healthcare: Medical imaging training while preserving patient privacy.

Finance: Credit cards using GANs for fraud detection.



forms of synthetic data

Structured Data: Customer behaviours, purchasing habits.

Synthetic Images: For training AI in medical and automotive fields.

Synthetic Text: Natural language processing applications.

Time Series Data: Used in radar systems, IoT sensor readings and predictive maintenance.



benefits of synthetic data

Privacy & Security:

Complies with data regulations.

Scalability: Generates large volumes of data easily.

Cost Efficient: Reduces costs associated with data collection.



How is Synthetic Data Used in Digital Advertising?

Ad Targeting: Better predictive models.

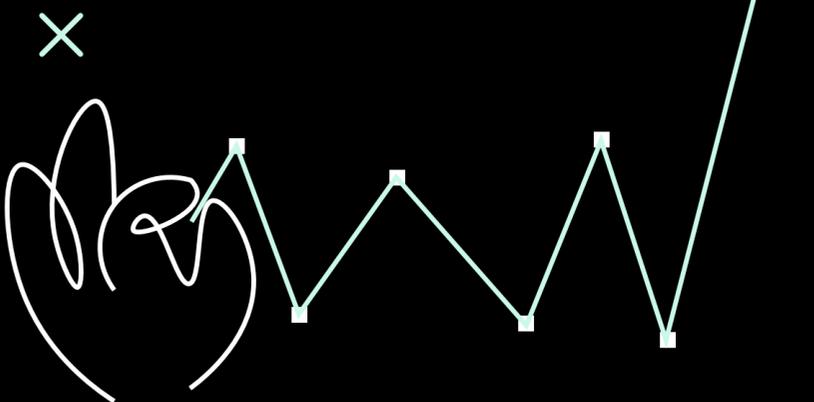
Personalisation: Tailored marketing messages.

Audience Expansion: Simulating new demographics.

Testing & Optimisation: Safe A/B testing without real data.

Compliance: Adapting to privacy laws.

key applications:



considerations

Quality & Realism:

Ensure data accuracy.

Bias Amplification:

Monitor for biases in generated data.

Validation: Regular testing against real-world scenarios.

Resource Intensive:

Requires skilled personnel.

conclusion

Synthetic data is a powerful tool when used responsibly and in conjunction with real-world insights.