High accuracy Data Anonymization

FACTSHEET FOR RESEARCHERS

What is Amnesia?

Amnesia is a tool that helps you to transform personal data to anonymous data that can be used for statistical analysis.
Data anonymized with Amnesia are *statistically guaranteed* that they cannot be linked to the original data.

Did you know that you can do your research and share your results complying with GDPR guidelines by using data anonymization algorithms, because:

- Guarantees no links to the original data
- Offers k-anonymity & km-anonynity
- Allows minimal reduction of information quality

Amnesia has High Usability & Flexibility

Because anonymization is tailored to user needs through a graphical interface. You guide the algo rithm and decide trade-offs with simple visual choices.
Developers can incorporate Amnesia anonymiza tion engine to their project through a ReST API.

- Easy usage interface
- Adjustable settings
- Visualization of anonymization choices

Amnesia is GPDR compliant

Create anonymous datasets from personal data that are treated as statistics by GDPR.
By doing so, anonymous data can be used without the need for consent or other GDPR restrictions, reducing the effort needed to extract value from them.

- Guarantees anonymity
- Goes beyond pseudo-anonymization
- Anonymized data are not constrained by GDPR

How does it work?

Amnesia is an application written in java and JavaScript and **should be used locally for anonymizing a dataset**.

The transformation is guided by user choices and provides an **anonymization guaranty** for the result.

Amnesia offers the following privacy guaranties:

- k-anonymity, suited for simple relational data and
- km-anonymity, for multi-dimentional data

Anonymise in 3 steps

1.Load your data

Amnesia accepts complex object relational data in delimited text files.

2.Select and Preview the data to anonymize

Visual representations of anonymization parameters and results allow non-expert users to tailor the anonymization process to their needs.

3.Save the anonymized data. The process is completed without any sensitive data leaving your premises!

Amnesia offers **algorithms** that take advantage of modern hardware architectures that feature multiple computer cores. **Amnesia** allows the user to **guide the anonymization process** by visualizing the candidate solutions and allowing the user to choose and customize the most convenient one.

id	Zipcode	Age	National.	Disease
1	13053	28	Russian	Heart Disease
2	13068	29	American	Heart Disease
3	13068	21	Japanese	Viral Infection
4	13053	23	American	Viral Infection
5	14853	50	Indian	Cancer
6	14853	55	Russian	Heart Disease
7	14850	47	American	Viral Infection
8	14850	49	American	Viral Infection

id	Zipcode	Age	National.	Disease
1	130**	<30	*	Heart Disease
2	130**	<30	*	Heart Disease
3	130**	<30	*	Viral Infection
4	130**	<30	*	Viral Infection
5	1485*	≥40	*	Cancer
6	1485*	≥40	*	Heart Disease
7	1485*	≥40	*	Viral Infection
8	1485*	≥40	*	Viral Infection

Original and anonymized dataset with k-anonymity

Synthesizing, Amnesia is:

1.User friendly
2.Works locally - no data transfer risk
3.Allows user to customize the solutions
4.The only tool to offer anonymization for set-valued data
5.The only tool to support km-anomymity
6.Easy to incorporate to third party information system

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Useful Links

AMNESIA WEBPAGE
https://amnesia.openaire.eu/

DOCUMENTATION
https://amnesia.openaire.eu/about-documentation.html

DOWNLOAD AMNESIA
https://amnesia.openaire.eu/download.html

ANONYMIZATION ENGINE SOURCE CODE
https://github.com/dTsitsigkos/Amnesia

API
ReSt and command line API exist to help developers

Learn more

GUIDE - https://www.openaire.eu/amnesia-guide
WEBINAR - https://youtu.be/_0Io6c1MPOY

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