Algorithmic Decision Making, Profiling and Privacy protection

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Privacy, Security and ethical aspects of data

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The right to be informed

Companies will now need to include some form of privacy notice, emphasising the need for transparency over how they use your personal data.

The right of access

You will be able to obtain confirmation that your data is being processed, access to your personal data and other supplementary information.

The right to rectification

You are entitled to have incorrect data rectified. If it has been disclosed to third parties, companies must inform them as well as you.

The right to erasure

This allows you to request the removal of personal data where there is no compelling reason for its continued processing

The right to restrict processing

You will have the right to 'block' processing of personal data. When restricted, companies are permitted to store data, but not process it.

The right to data portability

This allows you to obtain and reuse your personal data across different services. You can move, copy or transfer data without hindrance.

The right to object

You will be able to object to processing based on legitimate interests, direct marketing, and processing for the purpose of research and statistics.

Automated decision making & profiling rights

Safeguards are provided against the risk that a potentially damaging decision is taken without human intervention.

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ARTICLE 29 DATA PROTECTION WORKING PARTY

Understanding algorithmic decision-making: Opportunities and challenges

European Parliament

Guidelines on Automated individual decision-making and Profiling
for the purposes of Regulation 2016/679

Adopted on 3 October 2017

As last Revised and Adopted on 6 February 2018

https://www.europarl.europa.eu/stoa/en/document/EPRS_STU(2019)624261

https://ec.europa.eu/newsroom/article29/item-detail.cfm?item_id=612053

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Profiling Art. 4(4)

automated form of processing on **personal data**

to **evaluate personal aspects** of a person,
in particular, to **analyse or predict their**:

performance at work
economic situation
health
personal preferences

reliability
behaviour
location
movements

Profiling WP29

automated form of processing on **personal data**

to **evaluate** **personal aspects** of a person,
in particular, to **analyse or predict their**:

Any form of automated processing, **with or without a human** making processing or inferences about the processed data

"Evaluate" means assessment or judgement about a person. Example: Collecting statistics about age, gender, height of customers for an aggregated overview without any predictions or conclusions **is not profiling**.

Profiling WP29

- Are **inferences** included in **profiling**?
- **3 stages of profiling** (WP29):
  1. Personal data collection
  2. Automated analysis (also to identify correlations)
  3. Apply the output of the analysis to an individual **to identify or predict characteristics or behavior**

- … in order to place an individual in a category or group, w.r.t
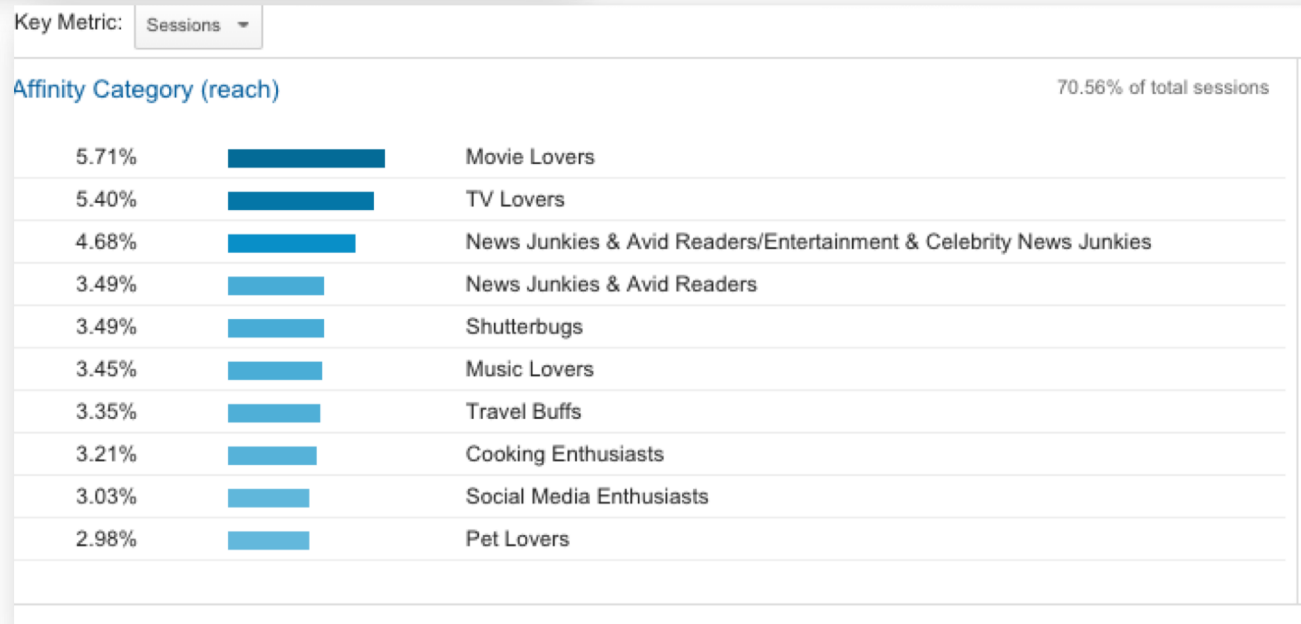   - their ability to perform a task
    - their interests
    - likely behaviour

Example

Source: https://www.celebritysites.com/find-info-about-your-sites-visitors-habits-interests-via-google-analytics/
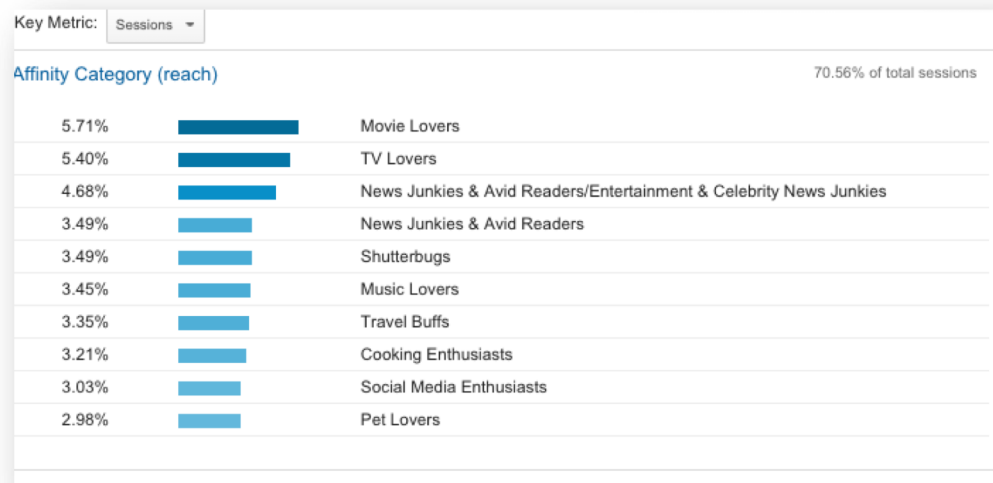
Example

Example

A data broker collects data from different public and private sources, either on behalf of its clients or for its own purposes. The data broker compiles the data to develop profiles on the individuals and places them into segments. It sells this information to companies who wish to improve the targeting of their goods and services. The data broker carries out profiling by placing a person into a certain category according to their interests.

Whether or not there is automated decision-making as defined in Article 22(1) will depend upon the circumstances.

https://ec.europa.eu/newsroom/article29/item-detail.cfm?item_id=612053

Key Metric: Sessions

Affinity Category (reach)   70.56% of total sessions

%	Category
5.71%	Movie Lovers
5.40%	TV Lovers
4.68%	News Junkies & Avid Readers/Entertainment & Celebrity News Junkies
3.49%	News Junkies & Avid Readers
3.49%	Shutterbugs
3.45%	Music Lovers
3.35%	Travel Buffs
3.21%	Cooking Enthusiasts
3.03%	Social Media Enthusiasts
2.98%	Pet Lovers

Automated Decision Making (ADM)

- Based on **any type of data**
  - **directly** provided by an individual
  - **indirectly** observed about the individual (tracking)
  - **derived or inferred** data (***profile*** => e.g. credit score)

- Automated Decision Making can be done
  - with or without profiling
  - "solely automated" or "include a human"

ADM with or without profiling

Example

Imposing speeding fines purely on the basis of evidence from speed cameras is an automated decision-making process that does not necessarily involve profiling.

It would, however, become a decision based on profiling if the driving habits of the individual were monitored over time, and, for example, the amount of fine imposed is the outcome of an assessment involving other factors, such as whether the speeding is a repeat offence or whether the driver has had other recent traffic violations.

CONTRÔLES RADARS FRÉQUENTS

Traffic Citation — TICKET NUMBER 7639871

HABITUAL SPEEDER

© Can Stock Photo - csp16487984

https://ec.europa.eu/newsroom/article29/item-detail.cfm?item_id=612053

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Rights in relation to Automatic Decision Making

(including profiling) _{Art. 22#71}

Individual has the right not to be subject to a decision when:

based **solely on automated processing**, including profiling

produces **legal effects** concerning her, or

significantly affects her

Automatic Decision Making: "solely automated" or "involving human"?

Example

individual applies for a loan online:

- a human decides whether to agree the loan based on a profile produced by purely automated means(ii);
- an algorithm decides whether the loan is agreed and the decision is automatically delivered to the individual, without any prior and meaningful assessment by a human (iii).

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Legal Effects

affects someone's **legal rights**

eg. such as voting in an election

affects a person's: **legal status, rights under a contract**

- cancellation of a contract
- entitlement to, or denial of social benefit granted by law, eg. child or housing benefit
- refused admission to a country, or denial of citizenship

ARRIVALS

BIG DATA

"Your recent Amazon purchases, Tweet score and location history makes you 23.5% welcome here."

TG'11

Similar significantly affects a person

Significant effects: affects the circumstances, behavior or choices

has impact that is prolonged or permanent on the person

lead to the exclusion or discrimination
- financial circumstances, refusal credit application
- access to health services
- employment opportunities, refuse e-recruiting
- access to education

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The term "right" in the provision does not mean that Article 22(1) applies only when actively invoked by the data subject. Article 22(1) establishes a general prohibition for decision-making based solely on automated processing. This prohibition applies whether or not the data subject takes an action regarding the processing of their personal data.

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Requirements for Solely Automated-Decision Making (without human involvement)

Forbidden, by default (unless there are exceptions)

Transparency:
- meaningful information about logic involved
- significance and envisaged consequences

Measures:
- appropriate technical and organisational measures to enable inaccuracies to be corrected and minimise risk of errors

ADM without human are forbidden by default

Exceptions when ADM is allowed:

Local law requires it
- Prevent fraud, tax evasion
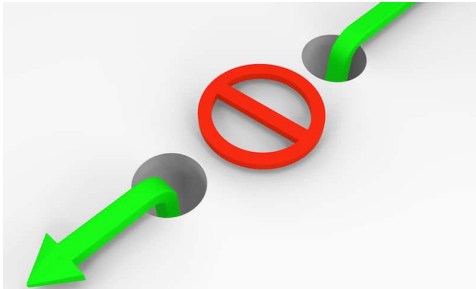
Necessary for a contract
- High level of applications for job (tens of thousands)

Explicit consent
- Stronger than "consent", 2-phase confirmation

Cristiana Santos, Utrecht University

Automatic Decision Making: "solely automated" or "with human"?

Business can do a nominal involvement of a human to overlook/validate the decision-making **depriving an individual from her right not to be involved**!

29WP response:

To qualify as human involvement, the controller must ensure that any oversight of the decision is meaningful, rather than just a token gesture. It should be carried out by someone who has the authority and competence to change the decision. As part of the analysis, they should consider all the relevant data.

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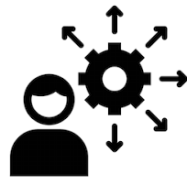
Transparency

Inform about automated decision making "right to explanation" #71

Provide meaningful information about the **logic**
- Not full disclosure of the algorithm
- Person should be able to understand the reason for the decision, eg. loan application

Explain significance and envisaged **consequences** of the processing, eg. insurance tracking driving behavior
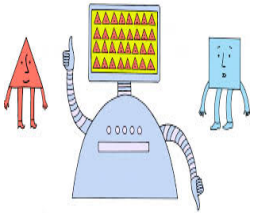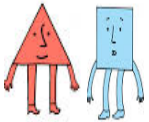
Appropriate Safeguards

Allow the persons involved the right to:
- Obtain human intervention
- Express their point of view
- Contest the decision
  - responsibility in case of harm
  - decision on changing the algorithm

Frequent assessments on the datasets for any **bias**

Develop ways to address any prejudicial elements, including any over-reliance on correlations
- Realistic worst case scenarios
- Who are the users and vulnerable groups?

Algorithmic auditing, reviews of accuracy/relevance of automatic decision making

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Cristiana Santos, Utrecht University

Rights of the Data Subject in case of Profiling or ADM (with or without human)

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Example

A data broker undertakes profiling of personal data. In line with their Article 13 and 14 obligations the data broker should inform the individual about the processing, including whether they intend to share the profile with any other organisations. The data broker should also present separately details of the right to object under Article 21(1).

The data broker shares the profile with another company. This company uses the profile to send the individual direct marketing.

The company should inform the individual (Article 14(1) (c)) about the purposes for using this profile, and from what source they obtained the information (14(2) (f)). The company must also advise the data subject about their right to object to processing, including profiling, for direct marketing purposes (Article 21(2)).

The data broker and the company should allow the data subject the right to access the information used (Article 15) to correct any erroneous information (Article 16), and in certain circumstances erase the profile or personal data used to create it (Article 17). The data subject should also be given information about their profile, for example in which 'segments' or 'categories' they are placed. [23]

If the company uses the profile as part of a solely automated decision-making process with legal or similarly significant effects on the data subject, the company is the controller subject to the Article 22 provisions. (This does not exclude the data broker from Article 22 if the processing meets the relevant threshold.)

Then ADM is forbidden by default (with exceptions)

- see slides on Privacy in Targeted Advertising

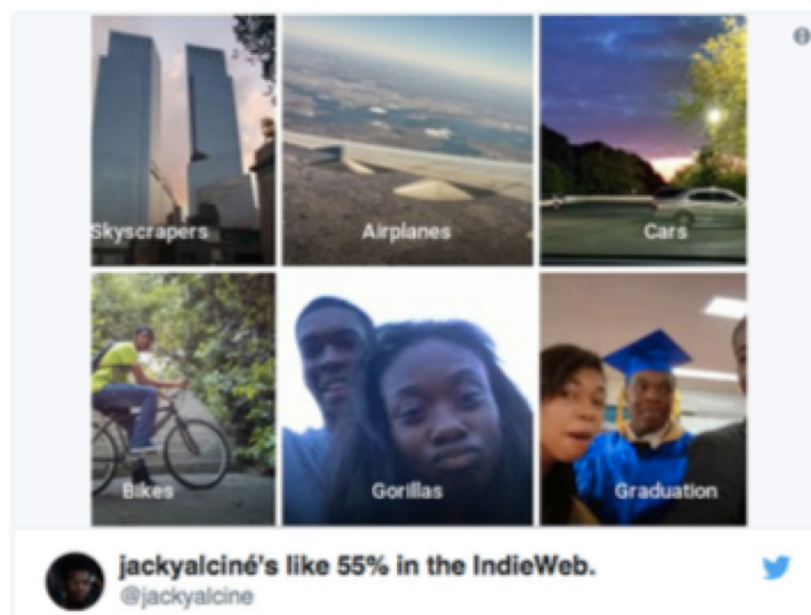# Right to rectification, erasure and restriction of processing

- Profiling involves prediction

- Input data may be inaccurate or irrelevant

- Something wrong with the algorithm?

- In theory:

The Article 16 right to rectification might apply where, for example, an individual is placed into a category that says something about their ability to perform a task, and that profile is based on incorrect information. Individuals may wish to challenge the accuracy of the data used and any grouping or category that has been applied to them.

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In practice...

Accuracy disparity. In 2015, Jacky Alciné, a Brooklyn resident, noticed while browsing his Google Photos app that pictures of him and a friend, both of whom are black, were tagged under the label 'gorillas' (see figure 9). This mistake was clearly not intentional, but resulted from an error by the Google image classification algorithm.

Figure 9 – Example of accuracy disparity: incorrect tagging of pictures

Source: https://mashable.com/2015/07/01/google-photos-black-people-gorillas/#SkdKmWWBtuqQ)

https://www.europarl.europa.eu/stoa/en/document/EPRS_STU(2019)624261

- see slides on Criminal Machine Learning