

Digital Footprints in the world of AI and the risk of Personal Data

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LIFE IS FOR SHARING.



Your footprint in the Digital World

The photos, pages, videos you like, subscribe to, the button you press and links you click on, emotional reaction you leave on posts, along with the pages you visit, and a lot more.

Are your **Digital Footprint**

These are trail of data crumbs you leave behind when using the internet

AKA
Also known as

Digital Shadow

Data Exhaust



Passive digital footprint

- social security number
- tax records
- medical records
- IP address
- browsing history
- pictures of you friends & family post
- device information (type, model, etc.)
- favorite websites

Active digital footprint

- social media posts
- photos & videos
- online comments
- location data
- shopping preferences
- phone calls
- text messages & chats
- emails, etc.



Wide range of Data

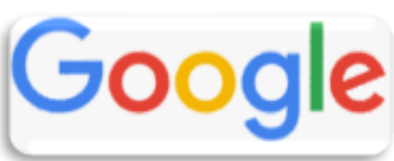
Some Examples of Digital Footprints

Online shopping digital footprint	Social media digital footprint	Citizen digital footprint	Smartphone digital footprint	Your network's digital footprint
Email address Address Phone number Credit card details Your product search history Most frequently bought items Average shopping basket value Most browsed products Products you're likely to buy & more	All your posts Photos & videos (including deleted ones) Messages you sent/received Files you shared/received Phone contacts Email address Address Phone number Type of content you consume Favorite topics Most clicked ads & more	Social security number Address Phone number Medical records Tax records Bank accounts Household composition & family relationships Real estate ownership records Criminal record Fingerprints Age Ethnicity	Photos & videos Contacts Fingerprints and/or facial features Location data, including history Apps you run List of contacts List of phone calls Text messages Downloaded files Passwords Shopping list Notes	Posts, pictures and videos you're tagged in Relationships (significant others, close family and other relatives, friends, etc.) Messages Groups or group chats Video calls Emails Shared accounts Their online searches on shared devices

Data is the most valuable asset on earth



Everything ordered
Product Browsing History
Addresses lived
Wish List Items
E-book Purchases
Product Recommendations
Music
Pictures
Files
Movies Watched
TV Shows Watched
Android Apps downloaded
Location
Advertisin Preferences
Wi-fi Passwords
Everything asked from Alexa
And a lot more



Location Data
Search History
Deleted Searches
Advertisement profile
Apps Used
Youtube History
Emails
Contacts
Products Bought
Photos taken on phone
Calendar Data
Music
Books
Websites Visited
And a lot more



Every Message Sent
Every File sent
Phone Contacts
Audio Messages sent
Interests based on Likes
Login Time
Login Location
Login Device
And a lot more



„Social media companies sell certainty, in order to be successfull in that business you have to have great predictions. Great Prediction begin with one imperative: **you need a lot of Data**”

- Shoshana Zuboff, PhD – Harvard Business School Professor Emeritus

Author of The Age of Surveillance Capitalism



Data to Data points

By combining the data points - and many others – Businesses and Organizations can build an individual's profile with high accuracy.

Data is collected in real time and attached to the individual's identity
4000-5000 data points is sufficing to predict the personality of an individual



„175 zettabytes - The volume of data produced in the world is expected to grow from 33 zettabytes in 2018 to 175 zettabytes in 2025 (one zettabyte is a thousand billion gigabytes)”

— Artificial intelligence: Threats and Opportunities - European parliament

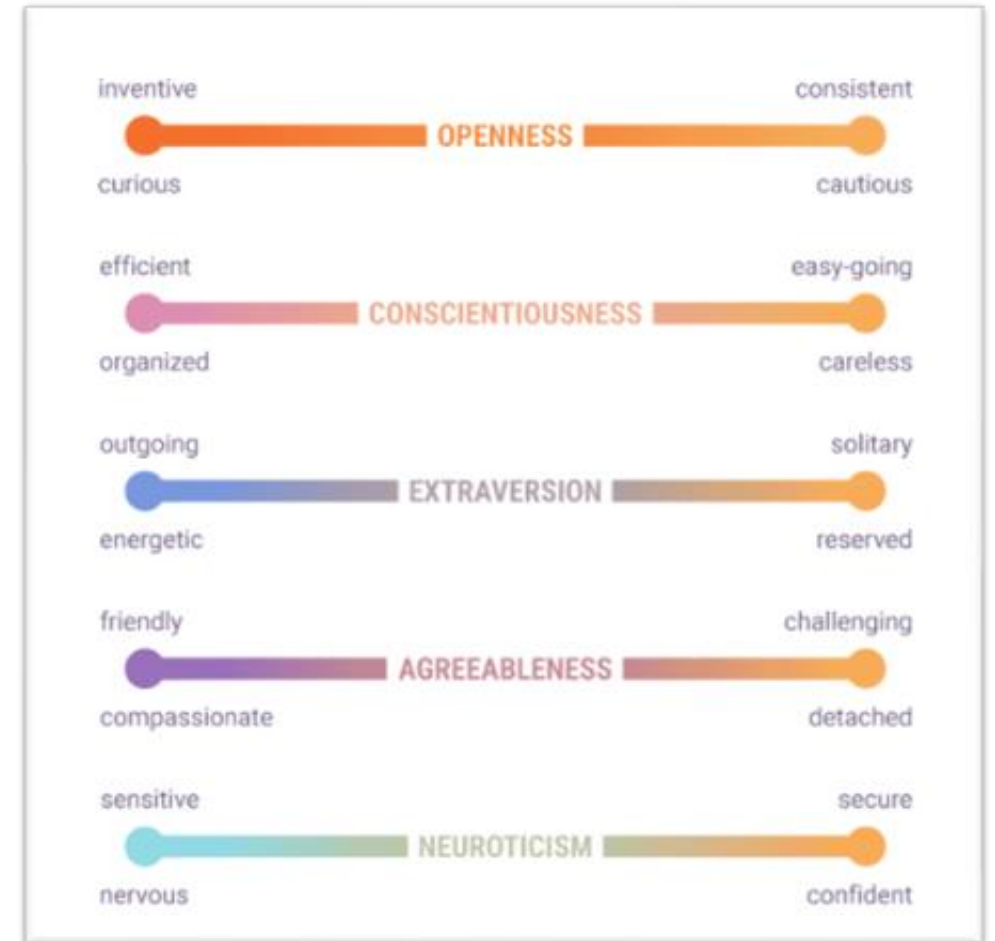
Human Psychology Background

Psychographics* (PsyOps ~ Psychological operation) is a key factor in motivation understanding

*The British Government classified the Psychographics as Weapons-grade technology

- **O.C.E.A.N - the Big Five personality traits** (It makes the personality scientifically measurable) is a key principle that is used to underline the **individual's profile and build Psychographics**

Openness to experience
Conscientiousness
Extroversion
Agreeableness
Neuroticism



„Discriminating by using the power of the **Algorithm**, that feeds on data and builds profiles, there is no appeal or accountability towards the owners of the code”

- Cathy O’Neil, PhD – Author of Weapons of Math Destruction



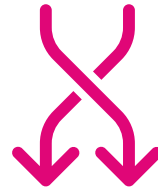
Behavioral Psychology & Change

- Data-Driven Behavior change
- „Growth hacking” as a discipline
 - Used in social media - hack people's psychology
- Persuasive technology
 - A **design method purposely applied** to the extreme where the Business/Organization want to **modify someone's behavior**
 - Aiming for the **individual's attention**, feeding with a **steady stream of targeted personalized content** built for and **seen by only the individual** to trigger them and change the behavior

Behavior can be accurately predicted based on the data which is the emotional pulse




Data is being used to build models that predict the individuals actions



„We are all being scored all the time, we are all battling with **algorithmic determinism**, somebody's algorithm, somewhere assigned a score to us and as a result we are paying more or less money when we shop online. We are being shown better or worst mortgages based on our financial score”

Behavior Manipulation



— Amy Webb, Futurist – Author of The Big Nine

Addiction as a huge threat

Psychology calls it Positive Intermittent Reinforcement ~ like gambling addiction

- **Aim of the Social media companies** that they want to **psychologically figure out** how to manipulate the individual as fast as possible and then give back the **dopamine hit**.
- Social media have moved away from having a **tools-based technology environment** to an **addiction and manipulation-based** technology environment

„Social Media is a drug, as **humans have a basic biological imperative to connect with other people**. That directly affects the release of dopamine in the rewards pathway”



- Dr. Anna Lembke, School of Medicine
Medical Director of Addiction Medicine - Stanford University

„There are only two industries that call their customers, user's:

illegal drugs and software”



- Edward Tufte, PhD
Professor Emeritus – Yale University



Manipulation of Society as RISK

„It's not the technology being the existential threat. It's the Technology's ability to bring out the worst in society, and the worst in society being the existential threat”

- Tristan Harris, Technology Ethicist - Center For Humane Technology – Co-Founder



The platforms initially were created to connect people, but they are being weaponized

- The tech industry created such sophisticated tools that can destabilize and erode the fabric of society
- Those in power can play with the whole populations psychological state
- Individual aspects (In China Algorithmic Oppression & Obidience - Other parts of the world Surveillance Capitalism)
 - Apply for a loan or credit, Applying for a job, Measuring your activity on the job, Public travel, Museum attendance, Sport events, University application of your child, etc...
- The Filtered reality can divide the real world – Growing Polarization

„Humans are simply operating on a different set of facts. When that happens at scale, you're no longer able to reckon with or even consume information that contradicts, with that world view that we have created. That means that we aren't actually being objective, constructive individuals”



- Rashida Richardson, NYU School of Law

A.I Now Institute – Director of Policy Research

What can we all do to reduce exposure?

- **Avoid** giving special permission on social media to any app
- **Avoid** acceptance of page follows
- **Reduce** participating on social media comment sections
- **Reduce** sharing content that expose your opinion on Religion/goods/events in the world
- **Reduce** the daily screentime significantly
- **Dont share** personal/family critical content on social media
- **Dont allow** your child to use the social media under the age of 16
- **Dont allow** social media logins like Food/goods order applications for easier access
- **Dont accept** recommendations on social media in any kind
- **Dont use** your electronic devices with social media connection 1 hour before going into bed
- **Be wakeful** on emotion interactions, status updates, sharing Photos and content
- **Be more Self-Conscious** on how you „live” in the digital world
- **Be more autonomous** like in the old days
- **Google the facts** you believe it is the ultimate truth
- **Follow or read posts** by people you dont like to get a grasp over the other side
- **Just to mention a few**



There is no way to go off the grid therefore, think outside of the box and ask yourself can you be manipulated?



Regulations and Civil Organizations

• Civil Organizations

- Algorithmic Justice League & Center for Humane Technology
- Big Brother Watch & Algorithm Watch
- Atomium - European Institute for Science, Media and Democracy (EISMD)
- And many more on **Aiethicist**

• International Organizations

- World Economic Forum

Tech Industry Principles

• AI Ethics in practice – 12 step Guide

- World Economic Forum


• Enterprise Audit Software for AI systems

- World Economic Forum

• Ethics of Artificial Intelligence and Robotics

- Stanford Encyclopedia of Philosophy

• The Ethical AI Platform

-  **The Alan Turing Institute** - Understanding artificial intelligence ethics and safety By Dr David Leslie Public Policy Programme

• Regulations & Compliance



• EU

- GDPR, ePrivacy Directive, German Government Report - BSI AIC4
- EU Charter of Fundamental Rights- Article 21 - Non-discrimination



• UK

- Data Protection Act - DPA 2018 - Section 3(2)



• Canada

- Directive on Automated Decision-Making - 2019



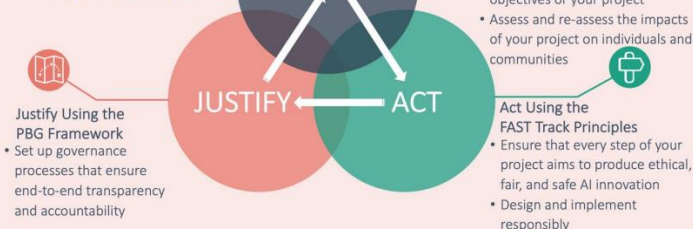
• USA

- Algorithmic Accountability Act of 2019
- HIPAA - Health Insurance Portability and Accountability Act
- FCRA - Fair Credit Reporting Act
- FERPA - Family Educational Rights and Privacy Act
- GLBA - Gramm-Leach-Bliley Act
- ECPA - Electronic Communications Privacy Act
- COPPA - Children's Online Privacy Protection Rule
- VPPA - Video Privacy Protection Act

Ethical Platform for the Responsible Delivery of an AI Project



Putting the Ethical Platform into Practice



Data rights should be considered as fundamental rights as people don't understand how their personal data is used

Is the Future dark or bright?

- **The moment is near** when technology would **exceed and overwhelm** human weaknesses
- The point being crossed is at the root of **addiction, polarization, radicalization, outrage-ification, vanity-ification** and **will overpower human nature**
- The technology **will become more integrated** into our lives and **not less as per the current trends**
- The **AI/ML will get better** at predicting what holds human attention not worst
- The problem is not what **AI will do to us on its own** its what the **powerfull will do to us with the AI**
- How will be the **Society & children of the next generation be protected** against manipulation, is this the responsibilty of the parents, Society, governments, how will they be able to bypass the system?
- What measures will be implemented to **inhibit the oppression** and block the **manipulative narratives, along the inevitable destructive consequences?**
- Will the decision makers have the **neccessary moral guidelines to protect all layers and the fabric of society**, so morals will win over greed?

Our personal data is used against us in a way we do not understand and affecting our lives therefore our dignity is at stake



A background graphic featuring a complex network of blue lines and dots, resembling a molecular structure or a digital network, set against a dark blue background. The lines and dots are interconnected, creating a sense of connectivity and complexity.

Thank you for your attention! Q&A



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Backup

Addiction examples in numbers

- **Gigantic increase*** in **depression and anxiety** for Teenage girls in America, that began in 2011 and 2013, its up **62% for the age of 15-19** and **189% for the age of 10-14**, also the **Suicide rates up to 70% for the age 15-19** and **151% for the age of 10-14**

*Source: Centers for Disease Control and Prevention

Effects on Society

- **Manipulation** can lead to **Mass Behavioral change** in the population by manipulating **whole country's society**
- Humans are **socially controlled**, **Individually nudged** and **measured, classified** in a way that no one see, and to **direct** into paths **desired by power**
- **An algorithm** actually **can increase polarization in the society** by **amplifying exponential gossip and exponential hearsay** to the point that humans dont know whats true
- **Good (or Bad) Examples on whole society manipulation**
 - Cambridge Analytica Scandal
 - US Elections 2016
 - Brexit 2015
 - Myanmar crisis
 - Brazilian Elections
 - Argentina 2015
 - Triniday & Tobago 2009
 - Thailand 1997
 - India 2010
 - Malaysia 2013
 - Italy 2012
 - Kenya 2013
 - And many more



Sources

Links

- <https://www.aiethicist.org/>
- <https://www.nytimes.com/wirecutter/blog/state-of-privacy-laws-in-us/>
- <https://digital-strategy.ec.europa.eu/en/policies/eprivacy-regulation>
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- <https://plato.stanford.edu/entries/ethics-ai/#MachEthi>
- <https://www.gov.uk/government/publications/data-ethics-framework/data-ethics-framework-legislation-and-codes-of-practice-for-use-of-data>
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- <https://www.weforum.org/agenda/2020/09/how-to-put-ai-ethics-into-practice-in-12-steps/>
- <https://www.weforum.org/agenda/2020/09/rethinking-risk-management-and-compliance-age-of-ai-artificial-intelligence/>
- <https://www.theguardian.com/uk-news/2018/jun/06/cambridge-analytica-brittany-kaiser-julian-assange-wikileaks>

Watchable Documentaries and talks

- [Facebook's role in Brexit -- and the threat to democracy](#)
- [Machine intelligence makes human morals more important](#)
- [/the social dilemma](#)
- [The great hack](#)
- [Coded Bias](#)

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TED Ideas worth spreading

