Protecting Privacy and Security in Machine Medicine

Protéger la vie privée et la sécurité dans la médecine-machine

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#MachineMD #Privacy
Personal Health Information and GDPR

• Subject Matter
  • Protection of natural persons with regard to the processing of personal data

• Territorial scope
  • EU and outside the EU (extraterritorial effect)

• Material Scope
  • **Personal Data**: any information relating to an identified or identifiable natural person; an identifiable natural person is one who can be identified, directly or indirectly
  • **Sensitive Data** (list): genetic data, biometric data, data concerning health.

• Jurisdiction EU/MS:
  • The organisation and delivery of health and social care are the responsibility of the MS
  • Art. 168 TFEU: the Commission can promote public health and support cooperation between the MS + the Commission can take action to stimulate innovation and the development of the DSM
Deidentification and Pseudonymisation

• Deidentification (anonymisation)
  • anonymous information does not relate to an identified or identifiable natural person
  • GDPR does not concern the processing of such anonymous information

• ‘Pseudonymisation’ Definition (GDPR, art. 4)
  • Processing of personal data in such a manner that the personal data can no longer be attributed to a specific data subject without the use of additional information
  • Additional information is kept separately and is subject to technical and organisational measures to ensure that the personal data are not attributed to an identified or identifiable natural person

• ‘Pseudonymisation’:
  • appropriate technical measure to safeguard the personal data, such as encryption = obligation of security of processing
Big Data, AI and GDPR: Obstacles

• “Big” Data: Principles relating to processing of personal data. Personal data shall be processed:
  • Lawfulness of processing
  • Purpose limitation
  • Data minimisation

• DPIA
  • In particular using new technologies and where the processing is likely to result in a high risk to the rights and freedoms of natural persons
  • Processing on a large scale of special categories of data
  • Prior to the processing, the controller shall carry out an assessment of its impact
Public Good and Personal Data Donation

• Lawfulness of processing (GDPR, art. 6):
  • the data subject has given consent to the processing for one or more specific purposes (consent freely given, specific, informed and unambiguous)
  • processing necessary for the performance of a contract
  • processing necessary for compliance with a legal obligation to which the controller is subject
  • processing necessary to protect the vital interests of the data subject or of another natural person
  • processing necessary for the performance of a task carried out in the public interest
  • processing necessary for the purposes of the legitimate interests pursued by the controller or third party
Beyond the GDPR: Health in the DSM and AI Strategy

  - EU support: funding and standardisation.
  - Cooperation between MS. Ex.: 13 European countries have signed a declaration for delivering cross-border access to their genomic information (April 2018)


- EC Communication on Building Trust in Human-Centric Artificial Intelligence, 8 April 2019, COM(2019) 168
  - Ex.: the Commission will support, in coordination with MS, the development of a common database of health images initially dedicated to the most common forms of cancer, so that algorithms can be trained to diagnose symptoms with very high accuracy.

- HLEG AI Ethics Guidelines for Trustworthy AI, 8 April 2019
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