TRANSPARENCY AND ACCOUNTABILITY OF ALGORITHMIC SYSTEMS

Nozha BOUJEMAA
Rising benefits from Big Data and AI technologies have wide impact on our economy and social organization.

Transparency and trust of such Algorithmic Systems (data & algorithms) become increasingly important properties for appropriation of digital services and economic development.

Data analytics is changing from description of past to predictive and prescriptive analytics for decision support.

Importance of remedying the information asymmetry between the producer of the digital service and its consumer, be it citizen or professional (B2C or B2B).
Challenges

- It is often assumed that big data techniques are unbiased:
  - because of the scale of the data
  - because the techniques are implemented through algorithmic systems
- It is a mistake to assume they are objective simply because they are data-driven
- Algorithms are encapsulated opinions through decision parameters and learning data

=> Build Trust over Transparency & Accountability of Data and Algorithms
- Implementing the “Transparent-by-design” principle: fairness/equity, loyalty, neutrality etc.

⇒ Ethical ≠ Responsible
Challenges

Transparent-by-design, auditable-by-design, fairness & non-discrimination-by-design

- **Explainability/intelligibility, reproducibility & robustness against Bias of ML**
- **Progressive** user-centric analytics (Mix of Dataviz and Analytics)
- **Data** provenance and **usage monitoring**
- New paradigms for **information flow monitoring**
- **Fact-checking** requiring explicit & verifiable integration of heterogeneous data sources
TransAlgo

- National Scientific Platform for Transparency & Accountability Tools and Methods for Data and Algorithms (Fairness, Neutrality, Loyalty); b2b & b2c
- Support of The new “Law for Digital Republic”, Contributors: CNNum, DGCCRF, besides academia and associations,
- 3 Objectives: * Resource center (reports, publications, software, initiatives), *Workshops& Moocs, *Research & Dev. programs,

DATAIA Institute : Data Science, Intelligence & Society

- 4 Overarching Challenges:
  - From Data to Knowledge, from Data to Decision,
  - Deep learning toward Artificial Intelligence,
  - Transparency, Trust and Ethics,
  - Data economy and regulation

- Scientific and disciplinary foundations: Data Science, Management and Economy, Social Sciences, Legal Sciences

- Roadmap for 10 years, 180 M€ Budget, 14 academic institutions

- Kick-off => January 2018
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