

EUROPEAN  
**BIGDATA  
VALUE** FORUM

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# PANEL

## TRANSPARENCY AND ACCOUNTABILITY OF ALGORITHMIC SYSTEMS

Nozha BOUJEMAA



### 2 Sides of the same coin



- 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

# Relevant French Programs

## 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*



## TRANSPARENCY AND ACCOUNTABILITY OF ALGORITHMIC SYSTEMS

### Moderator

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