Big Data for Social Good

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Big data para o bem comum
São Paulo, May 16, 2019
General outline

1. A decade of (Big) Data revolution: genesis, expectations, concepts, concerns, and questions
2. Pillars and requirements of a positive data-enabled, people-centered, techno-scientific transformation
3. Deployment in LAC: OPAL, Ciudata Segura, Colombia Big Data Strategy, Capacity building…
A decade into the “Data Revolution”, many questions remain about whether Big Data (and AI) will help or hurt...

“We are at the beginning of what I call The Industrial Revolution of Data.”
Joe Hellerstein, Nov. 2008

Fix Africa’s Statistics
By Marcelo Giugale

Off the map
Rich countries are deluged with data; developing ones are suffering from drought
2010-2015: From big data to Big Data

Big Data is Not About the Data!

Gary King
Institute for Quantitative Social Science
Harvard University

(Talk at the New England AI Meetup, 5/14/2013)

circa 2010: the 3 V's of Big Data

now: the 3 C's of Big Data
The dark side(s) of technology

Data centers CO₂ emissions > entire airline industry

The real digital divide is between families that limit screen time and those that don't

Is data a danger to the developing world?
By Kate Crawford
Nov 2 2015
Can Big Data (and AI) help monitor and promote sustainable development goals?
Big Data for monitoring development indicators

Scientific Prize and Ethics Mention: Construction of socio-demographic indicators with digital breadcrumbs
F. Bruckschen (1), T. Schmid (2), T. Zbiranski (1)

We show that socio-demographic indicators such as population, age, literacy, poverty, religion, ethnicity, electricity supply and others can be estimated in unprecedented detail and virtually ad-hoc using antennas to antenna traffic data only. We offer a uniform approach that can be easily extended to other variables. Results are tested for spatio-temporal robustness and visualized as heat maps.

(1) Humboldt Universität Berlin, Germany - (2) Freie Universität Berlin, Germany

Annex: Uses of Big Data for SDG monitoring

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<th>SDGs adopted by</th>
<th>Big data examples</th>
<th>What is measured</th>
<th>How is monitored</th>
<th>Country(ies)</th>
<th>Year</th>
<th>Advantages of using big data</th>
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<td>1. Poverty, poverty, food insecurity and improved nutrition, and promote sustainable agriculture</td>
<td>Micronutrients: Tweets to understand food poverty</td>
<td>Micronutrients</td>
<td>Tweets</td>
<td>Indonesia</td>
<td>2014</td>
<td>Data available more regularly and cheaper than official data, inform economic better reflects</td>
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<td>2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture</td>
<td>Influenza: Google search queries</td>
<td>Influenza</td>
<td>Google search queries</td>
<td>US</td>
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<td>Real-time data, captures disease rates not officially recorded, data available earlier than official data</td>
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<td>3. Health</td>
<td>Influenza: Online searches to monitor influenza epidemics</td>
<td>Influenza</td>
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<td>2013</td>
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Better Data => Better Decisions => Better Development? 

Level of Development 

Quality of Development Measurement
‘Data’ vs. ‘development’: a rather weak link
THE DATA REVOLUTION IS HERE!

The good news is we can now measure your poverty levels at amazing levels of geographic granularity in real time!

The bad news is we still can't do anything about it.
TOWARDS A HUMAN ARTIFICIAL INTELLIGENCE FOR HUMAN DEVELOPMENT

Emmanuel Letouzé¹, Alex Pentland²
¹Data-Pop Alliance, MIT Media Lab, and OPAL, ²MIT and Data-Pop Alliance, and OPAL

Abstract – This paper discusses the possibility of applying the key principles and tools of current artificial intelligence (AI) to design future human systems in ways that could make them more efficient, fair, responsive, and inclusive.

Keywords – Artificial intelligence, big data, human development, open algorithms, fourth industrial revolution
Some key challenges

1. Powerful agents have an incentive for this not to work (e.g. economic and political elites benefit from status quo).

2. Most societies / countries currently lack appropriate data connections, capacities, and culture.

3. There is digital and analog distrust, disdain, echo chambers, alternative facts narratives, hampering cooperation, consensus, compromise.
Elisabeth MEDOU BA DANG, Porte-parole et directrice Afrique, Moyen-Orient, Orange Rabat, 2 juillet 2018

Key: building “data literacy”, connections, and “rational compassion” to make data work
Think about the need for ‘data literacy’ and reconsider as **literacy in the age of data**

We define data literacy as the “the desire and ability to constructively engage in society through or about data”.

*Building Literacy for the Data Generation*

A unique opportunity exists to develop data literacy education for children born into a world shaped by big data.
Developing Big Data Capacities & Literacy for the SDGS in LAC for decision-makers

Professional training workshops on Big Data and development held in Bogotá, Santiago, São Paulo, Santo Domingo, México City, with and for LAC partners over 2016-19

A curated knowledge platform in English (soon)

Next: Medellin, …
Producing new insights and incentives on key societal issues (criminality, social cohesion, ..)
Support to Colombia’s National Big Data strategy

Announcement of DNP-MIT Media Lab/Data-Pop Alliance agreement to support Colombia’s National Big Data Strategy at Andicom, Cartagena, September 2016
Data-Pop Alliance’s vision and plan: Develop and deploy local connected programs creating insights, skills and strategies with regional scalability—here in LAC
Thank you

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