

# BIGDATA FORTALEZA

WHAT IS THE BIGDATA?

**BIGDATA**





with more equality

AVERT

A PLATFORM THAT USES  
ARTIFICIAL INTELLIGENCE TO  
SOLVE THE CITY'S PROBLEMS. A  
MECHANISM FOR DESIGNING  
PUBLIC POLICIES AND MAKING  
EVIDENCE-BASED DECISIONS.

Today



2,428,678

inhabitants impacted\*  
directly or indirectly



# 2024

**pregnant women\***  
in the Passaré  
neighborhood

\* Figures are subject to change according to the date of collection





24,793

spots in the city's \*  
**daycare** centers

15,708

spots in **private** and \*  
**partner** nurseries

\* Figures are subject to change according to the date of collection





4

children to be\*  
vaccinated  
**against polio**

at the Children's Education Center  
Professor Jacinto Botelho -  
Neighborhood Mondubim

5

children to be\*  
vaccinated  
**against measles**

at the Children's Education Center  
Professor Jacinto Botelho -  
Neighborhood Mondubim

\* Figures are subject to change according to the date of collection



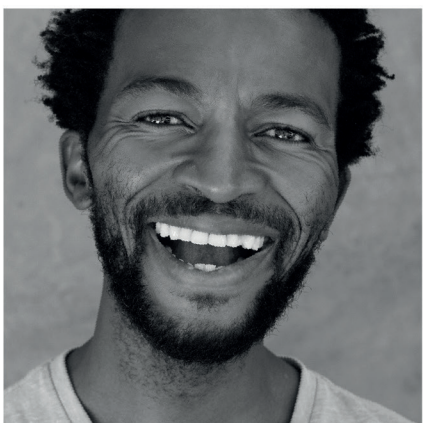


DATA FOR **whom?**





FOR THE



MANAGE

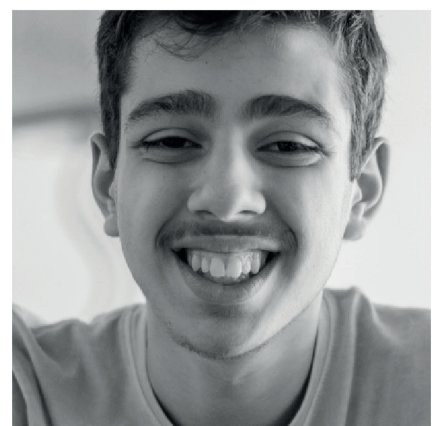


FOR

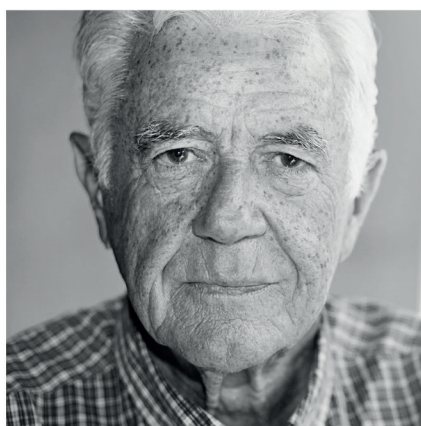
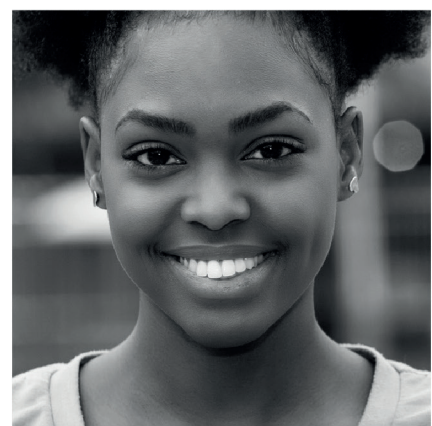


THE PEOPLE





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OPLE

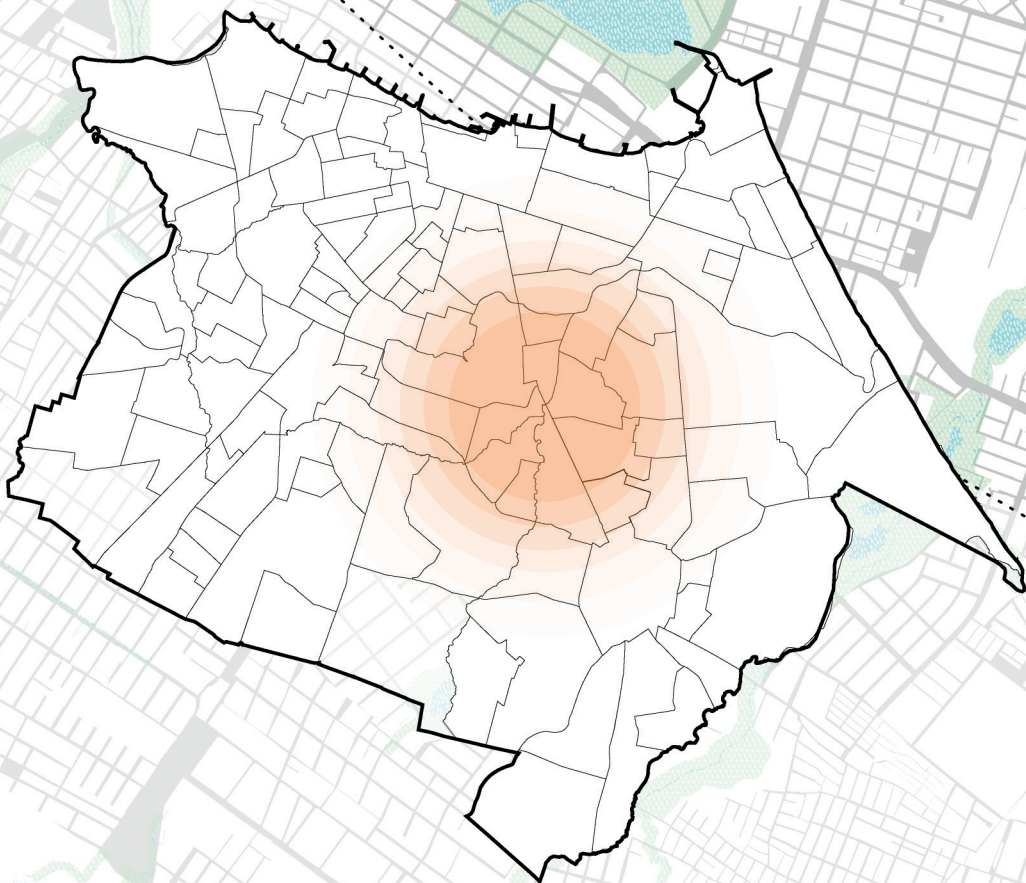






## CELSO

Eight months old, represents future demand for daycare in the neighborhood Antônio Bezerra







**REBECA**

At the age of 5, she is enrolled at CEI Deputy Edson Queiroz Filho and needs a measles vaccine



FOR THE CITY



**ALINE**

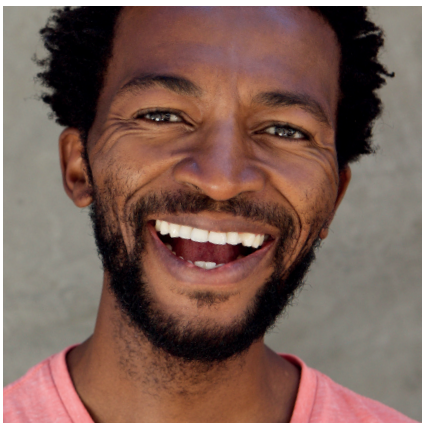
With 27 years old, is pregnant and needs prenatal care for five months







persona





# lization

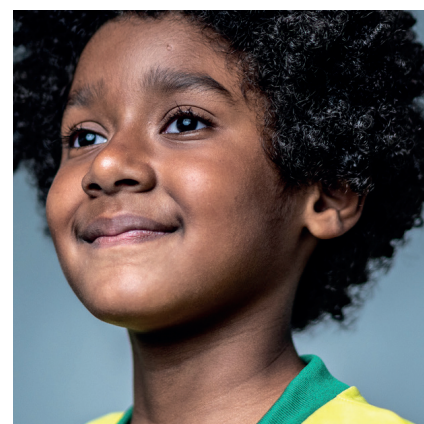
## per-so-na-li-za-tion

*sf*

The act or effect of personalizing. To make it personal. To adapt to someone's preferences or needs.

ETYMOLOGY

*der* from *lat* personalis+izar, as *fr* personnaliser





PLANNING

TECHNOLOGY

INNOVATION

DATA CULTURE

EVIDENCE

INFORMATION

INTEGRATION

PUBLIC POLICY



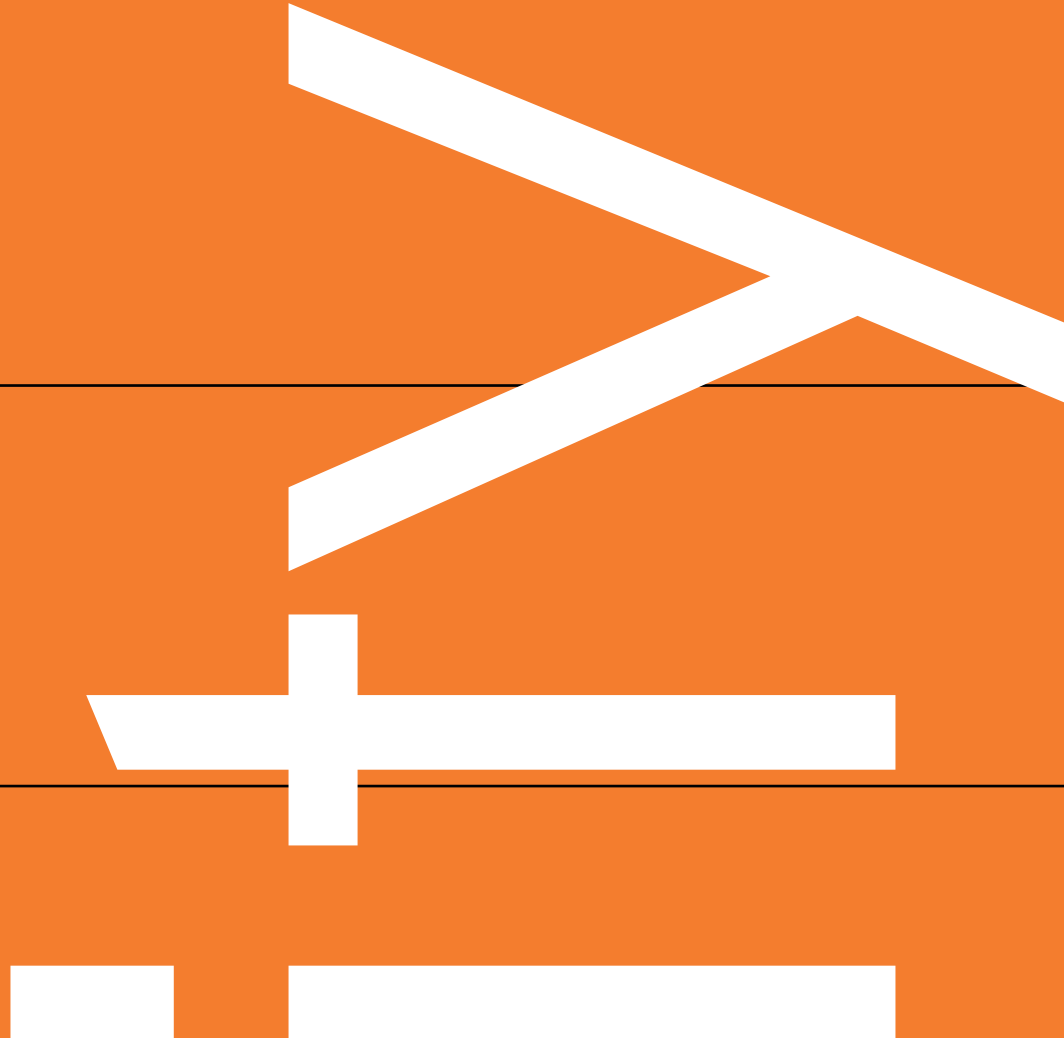
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*efficiency*



Fortaleza has gained national and international recognition as a **city focused on innovation**. BigData Fortaleza is a data project to improve the quality of Fortaleza's public policies, and, in the end, it is the **citizens who will benefit**, as they will have a more **efficient City Hall** with initiatives tailored to their needs.

***José Sarto***  
MAYOR OF FORTALEZA

# in public management



BigData Fortaleza demonstrates Iplanfor and City Hall's commitment to data science and culture. The platform will facilitate **personalizing and integrating public policies** in many areas, making **public management more efficient and equitable**.

BigData will make it possible to forecast demographic density by neighborhood, monitor the number of places available in nurseries based on the number of live births, and effectively increase vaccination coverage, among other possibilities. We will provide **more assertive answers** about the impact of the projects on **reducing inequalities**, benefiting the entire population of Fortaleza.

***Élcio Batista***  
DEPUTY MAYOR OF FORTALEZA  
AND SUPERINTENDENT OF THE  
DE PLANEJAMENTO DE FORTALEZA





The platform will support managers in **decision-making** and the **strategic planning** of the Municipal Department of Education (SME), focusing on intersectionality and the **strengthening of Early Childhood policies**. The platform's integrated data is also important for **identifying the specific needs of students** in the municipal network, monitoring the enrollment of children in the nursery stage and carrying out continuous evaluations of the effectiveness of policies. SME will gather tangible benefits when it comes to collecting, storing and using data. This will enable us to **allocate resources more equitably**.

***Dalila Saldanha***  
SECRETARY OF EDUCATION OF FORTALEZA



BigData in Health represents a **digital transformation** that enables us to convert large volumes of data into relevant information that we can use strategically, **more assertively** and in a shorter time for the benefit of the population of Fortaleza, thus ensuring that **resources are efficient**. The use of this technology, therefore, is a gain for managers, professionals and, above all, for users, as it will allow professionals to devote **more attention to each situation and individual**.

***Galeno Taumaturgo***  
HEALTH SECRETARY OF FORTALEZA



With the implementation of the platform, Fortaleza City Hall will have effective tools **to anticipate and find solutions to challenges**. The integration of data will guide the development of more assertive public policies for Early Childhood, **from providing services to managing public spending**. Tracking the growth or decline of a given population will allow us to project where we should focus more significant efforts in building Early Childhood Education Centers and other facilities. The launch of this system demonstrates our interest in and **commitment to changing the culture** and encouraging **data-based decision-making**.

***Angélica Leal***  
SECRETARY OF THE SPECIAL OFFICE OF EARLY CHILDHOOD  
FROM FORTALEZA'S CITY HALL



With BigData, we will be able to monitor the **city's social dynamics** and **accurately diagnose** the most **urgent needs** in vulnerable areas. By **integrating data**, we will have the tools to find strategies to **tackle extreme poverty** and act together to benefit the population.

***Francisco Ibiapina***  
SECRETARY FOR HUMAN RIGHTS  
AND SOCIAL DEVELOPMENT OF FORTALEZA





EDUCATION



HEALTH



EARLY  
CHILDHOOD



HUMAN  
RIGHTS





The Big Data Fortaleza platform, a partnership between IPLANFOR and the UFC, aims to **improve public management** in the municipality. Its initial focus is to **understand the demands for nurseries, vaccinations and monitoring pregnant women** by analyzing the data available at the City Hall. The platform's **flexible architecture** makes it **versatile** for addressing **different urban challenges**.

Using advanced technologies such as Big Data and Artificial Intelligence, this multidisciplinary initiative provides **evidence-based insights** for **personalized public policies**, promoting sustainable urban development and citizens' quality of life.

***Rossana Andrade***

PROFESSOR AT THE FEDERAL UNIVERSITY OF CEARÁ (UFC) and PROGRAM COORDINATOR  
CHIEF SCIENTIST

The BigData Fortaleza project was conceived through Funcap's Chief Scientist Program to develop a **data analysis and prediction** platform using advances in **big data, machine learning, cloud computing and data visualization** research and Software Engineering methodologies, techniques and tools. The system aims to help in the strategical planning of solutions for the city's **sustainable urban development**. Among the challenges that appear in this scenario are obtaining and analyzing data and forecasts for decision-making by managers, focusing on improving citizen engagement.

***Raimundo Costa Filho***

PRESIDENT OF THE CEARENSE FOUNDATION TO SUPPORT SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT (FUNCAP)





Having a robust big data infrastructure is crucial for the city management **to automate decisions based on scientific evidence**, allowing **Research and Innovation** to be part of the government's search for solutions to the city's problems. BigData Fortaleza will guarantee **efficiency, speed, cost optimization, risk management and the satisfaction** of the capital's residents. The City Hall is adapting and making **sustainable choices** that result in environmental, social and economic benefits for everyone.

***Elisângela Teixeira***

PROFESSOR AT THE FEDERAL UNIVERSITY OF CEARÁ (UFC)  
AND DIRECTOR OF THE FORTALEZA OBSERVATORY  
(FORTALEZA PLANNING INSTITUTE - IPLANFOR)



BigData Fortaleza is an innovative initiative in the field of public policy. Unlike many government actions, it uses big data analysis to gain **insights into social problems** and the population's needs, providing **accurate and timely diagnosis**. This precision is invaluable in designing **policies** that are effective and **sensitive to real-world challenges**. The platform's strength sets a new standard for **evidence-based governance**, and it's a model worth replicating.

***Ryan Cooper***

DIRECTOR OF GOVERNMENT INNOVATION  
AT THE CENTER FOR DEVELOPMENT ECONOMICS  
(UNIVERSITY OF CHICAGO)

The City Data Alliance program chose Fortaleza for its **commitment to using data evidence in decision-making** and advancing the practice of using data.

***Tiffany Davis***

DIRECTOR OF THE BLOOMBERG CENTER  
FOR GOVERNMENT EXCELLENCE  
(JOHNS HOPKINS UNIVERSITY)



**doing more**

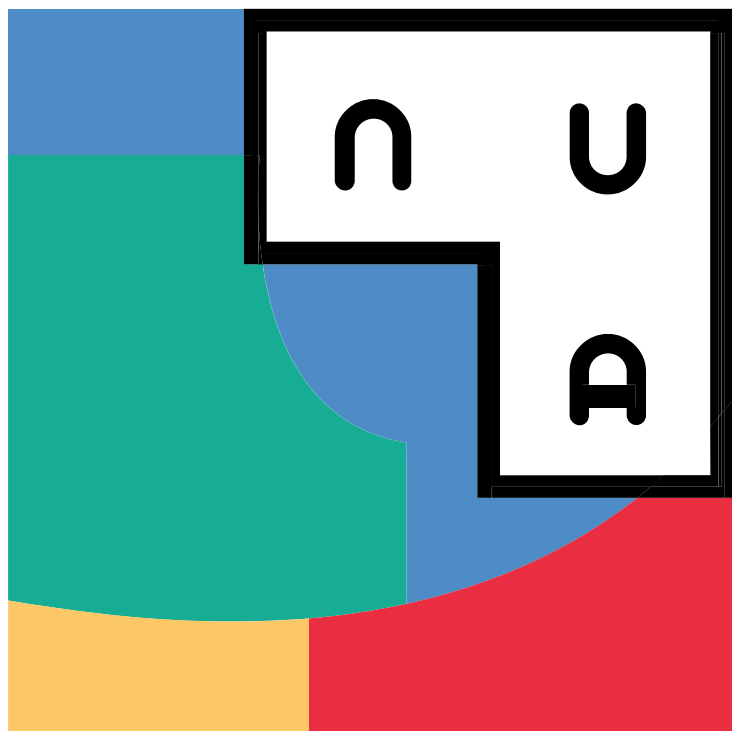






# with less

↑ EFFICIENCY IN THE MANAGEMENT  
OF PUBLIC MONEY



# SUSTAINABLE DEVELOPMENT GOALS

IMPLEMENTING  
THE NEW  
URBAN AGENDA



CARTA  
BRASILEIRA  
**CIDADES  
INTELIGENTES**



**FORTALEZA 2040**

FOR  
CITY OF TA  
DESIGN LZA



**unesco**

Member of  
the Creative Cities Network

# iDESiGUAL



# What Works Cities Certification

GOLD CERTIFIED 2023

**LAB**

**IPLANFOR**  
INSTITUTO DE PLANEJAMENTO DE FORTALEZA



**Fortaleza**  
PREFEITURA

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# BIGDATAFORTALEZA



Fortaleza  
PREFEITURA



COMMITMENTS



REALIZATION



Fortaleza  
PREFEITURA