# DIZ AÍ, VERDADE? - CHATBOT APP

## EMPOWERING PORTUGUESE SPEAKERS WITH DIGITAL LITERACY AND REAL-TIME FACT-CHECKING

# HOW CONFIDENT ARE YOU IN YOUR INFORMATION SOURCES?


Every day, we are confronted with several news articles and messages, many of which could be false or purposely misleading.

**How can we correctly identify them?**

# SCALE OF THE CHALLENGE
# BRAZIL

**Half of Brazilians** find it difficult to identify true news online, 72% report having received fake news in the past six months, and 81% believe such misinformation can significantly influence election results.

Source: Senate Agency

# SCALE OF THE CHALLENGE
# PORTUGAL

In 2025, 71% of Portuguese people reported being concerned about misinformation, **85% believed they had been exposed to fake news** in the past year, and in 2018, 61% said they encountered fake news at least once a week.

Sources: Lusa, Jornal Econômico, Imagens de Marca

# SCALE OF THE CHALLENGE
# ANGOLA

**Angola faces growing disinformation**, with a law proposing up to 10 years prison for serious cases; 60% of campaigns have foreign origins. Public support for free and investigative media is high (60–64%).

Sources: Lusa, DW, Afrobarometer

# MOTIVATION

**Real-life experiences with the communities we work with**

During COVID, **we have witnessed how misinformation can easily spreads fast** through WhatsApp groups in Brazil

Moreover, **this phenomenon is becoming a worldwide problem,** considered one of the main threats to several areas, such as politics, education, and science

# OUR PROPOSAL

An app for Portuguese-speaking countries, focusing on marginalized communities, named “Diz Aí, Verdade?”, **with real-time feedback, that promotes digital literacy**

# OUR MAIN GOAL

To develop an intelligent tool that supports **the identification of fake news and fosters critical thinking by interacting with users and providing evidence** to help them assess the veracity of online information.

# GLOSSARY

**FAKE NEWS: According to Alves et al., fake news refers to news that contains wrong or false information.** Several terms are used to define this topic, for example, news satire, yellow journalism, junk news, pseudo-news, hoax news, propaganda news, false information, fake information, misinformation, disinformation, mal-information, and alternative facts.

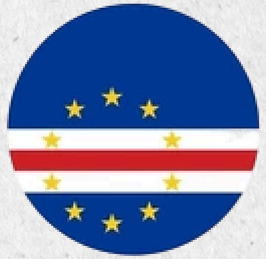
**CRITICAL THINKING: According to Hyytinen et al.** is a combination of cognitive skills and knowledge that includes analytical reasoning, assessing the reliability of knowledge, problem-solving, recognizing biases, considering different perspectives, and reaching well-founded conclusions.

**DIGITAL LITERACY: According to Hyytinen et al.** is the ability to empower users to access, analyze, and evaluate various forms of news. In other words, it's a form of literacy that cultivates critical thinking skills essential for intelligent information processing.

# REACH: FOUR CONTINENTS AND MORE THAN 260 MILLION PORTUGUESE SPEAKERS WORLDWIDE

Angola

Brazil



Cape Verde

Guinea-Bissau

Equatorial Guinea

Mozambique

Portugal

Sao Tome & Principe

East Timor

# OUR PROPOSAL STRENGTHS

**First app to integrate real-time feedback and critical thinking support** in an application tailored to Portuguese-speaking and marginalized populations.

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We can empower **users with digital literacy**, helping them understand why a statement might be misleading and how to verify it themselves.

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**We do it in a clear way, showing, step-by-step, the reasoning behind the identification**, using chain of thought.

# OUR INNOVATION

Some initiatives have emerged in our context, including **Lupa**, Aos Fatos, E-farsas, Agência Lusa, and Projeto Comprova. **However, these solutions do not function as true "conversation partners" in news verification.**

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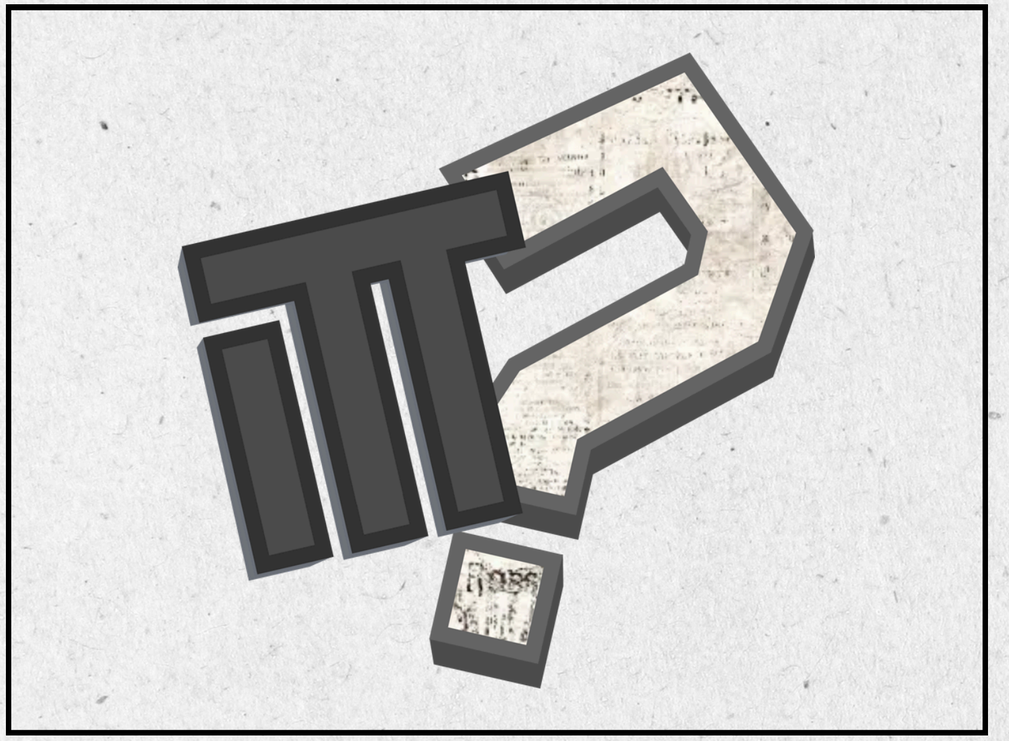
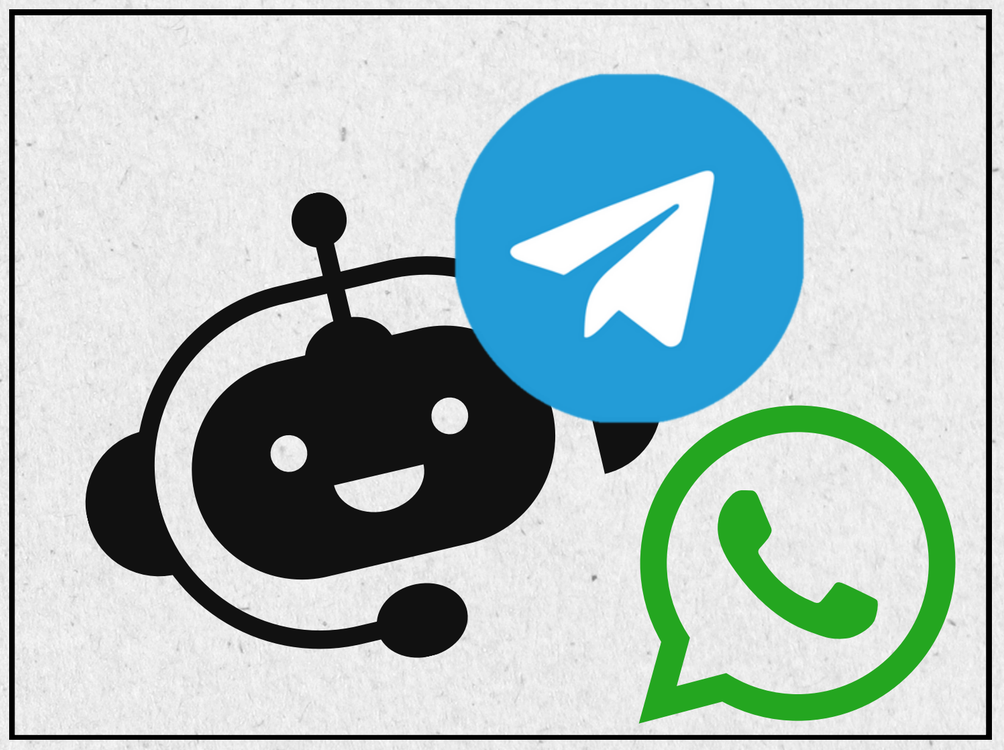
Instead, they operate in a unidirectional manner, identifying or explaining information, **but without engaging in dialogue.**

# OUR PROPOSAL



App integrating real-time feedback and critical thinking support tailored to Portuguese-speaking communities

# THE FORMAT



A chatbot with an integrated model, capable of detecting fake news content.

# OUR INNOVATION

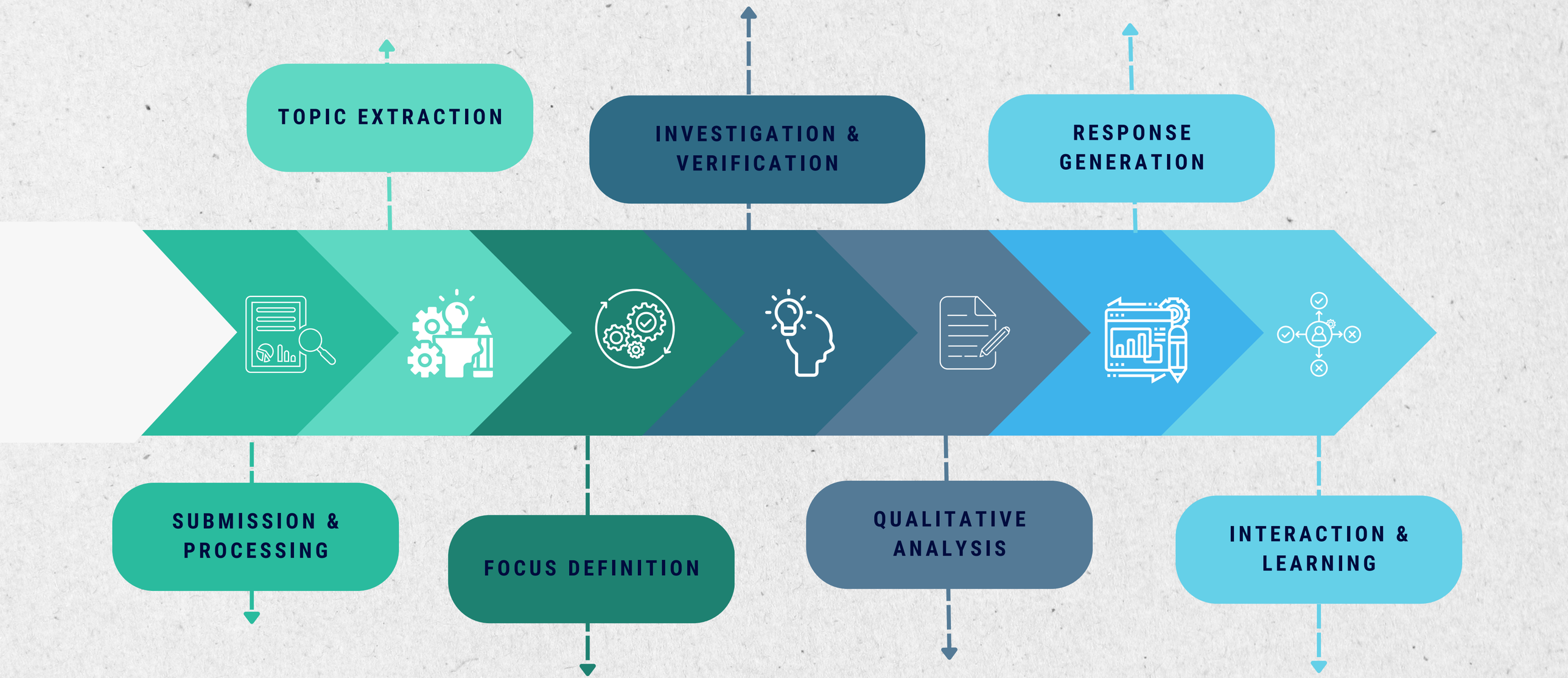
## Beta Version (already in test)

The current beta version was trained on a dataset containing over 20,000 true and false news in Portuguese. Additionally, numerous Machine Learning (ML) techniques were tested for modeling the data. To date, the best ML model has an accuracy rate above 90%. However, this current test version only indicates the probability of a news story containing false or misleading content.

## Release Candidate (RC) (with Dory Foundation grant)

The proposed version for Dory has the idea of having a real interaction with the user in the form of a discussion with robust arguments to help them decide whether the content contains false or misleading information, helping them understand the process of detecting fake news in texts.

# OUR METHODOLOGY



# METHODOLOGY DETAILS

**SUBMISSION & PROCESSING**

The User accesses the application and sends a news item, their link or just a question.

**TOPIC EXTRACTION**

Using a Large Language Models (LLMs), we extract the main topics and subjects from the news and return a menu of options for discussion.

**FOCUS DEFINITION**

The user chooses the topic they want to engage in conversation with the AI.

# METHODOLOGY DETAILS

**INVESTIGATION & VERIFICATION**

With the topic chosen, our application starts searching for news and articles related to that subject on the Web, through various search engines.

**QUALITATIVE ANALYSIS**

Once searches have been completed, we begin the process of filtering the best content related to the discussion topic chosen by the user, creating a context base for the LLM.

**RESPONSE GENERATION**

Using Retrieval-Augmented Generation, our LLM consults the generated database and prepares a response with relevant information about the topic, in addition to trying to discover possible false or misleading data.

# METHODOLOGY DETAILS

**INTERACTION & LEARNING**

**The user can engage in a conversation for as long as needed, asking new questions with the aim of discovering whether or not the initial news contains false or misleading information.**

# DOMINIQUE V.1 (BETA VERSION)

## Access!

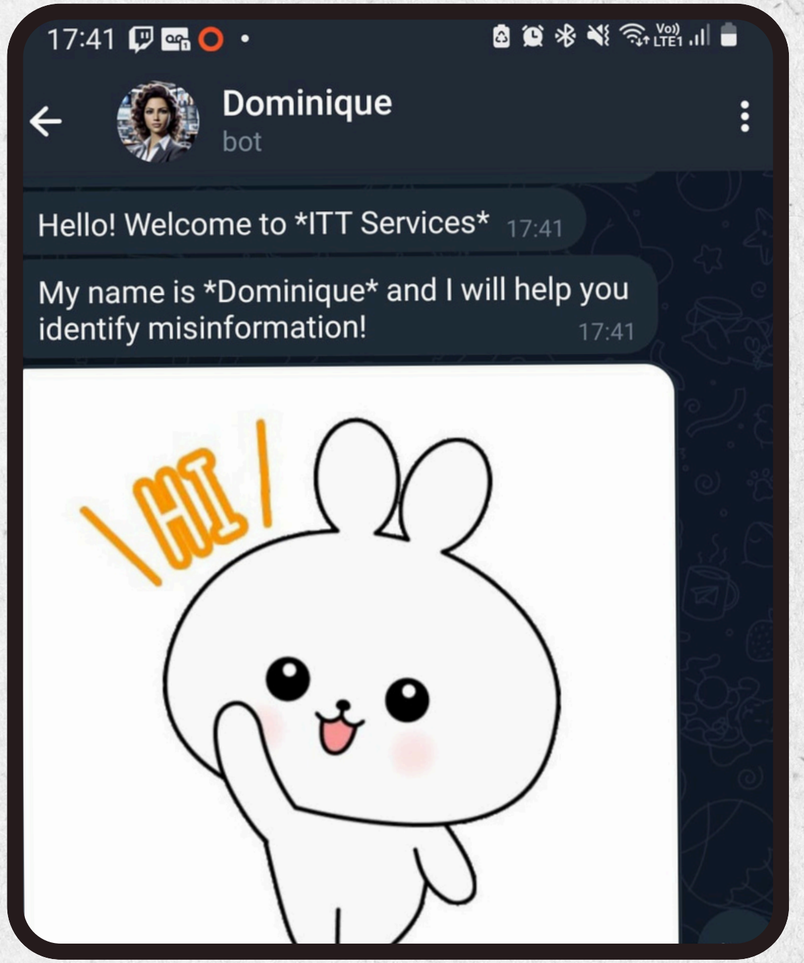
**Open Telegram:** Make sure you have the Telegram app installed on your phone or desktop. If not, download it from the App Store

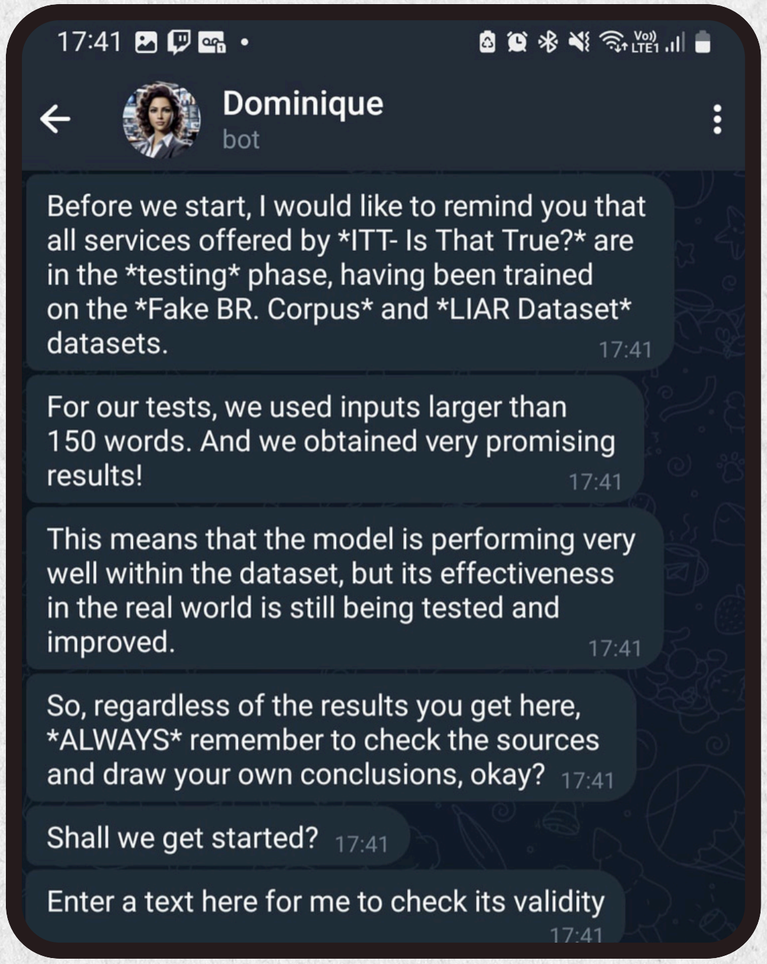
**Search for the App:** In the search bar at the top, type @ITT_Dominique_bot.

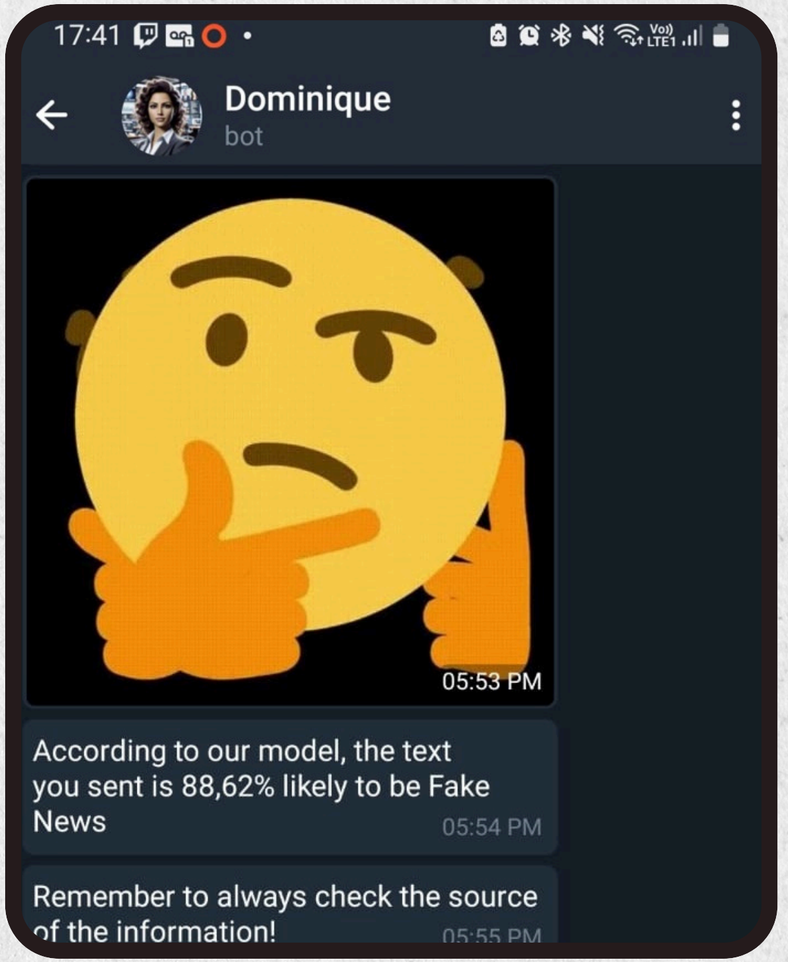
**Open the Chat:** Tap on the result that matches the name of the app.

**Start the App:** Press the Start button at the bottom of the chat. The app will send you a welcome message and show you the available options.

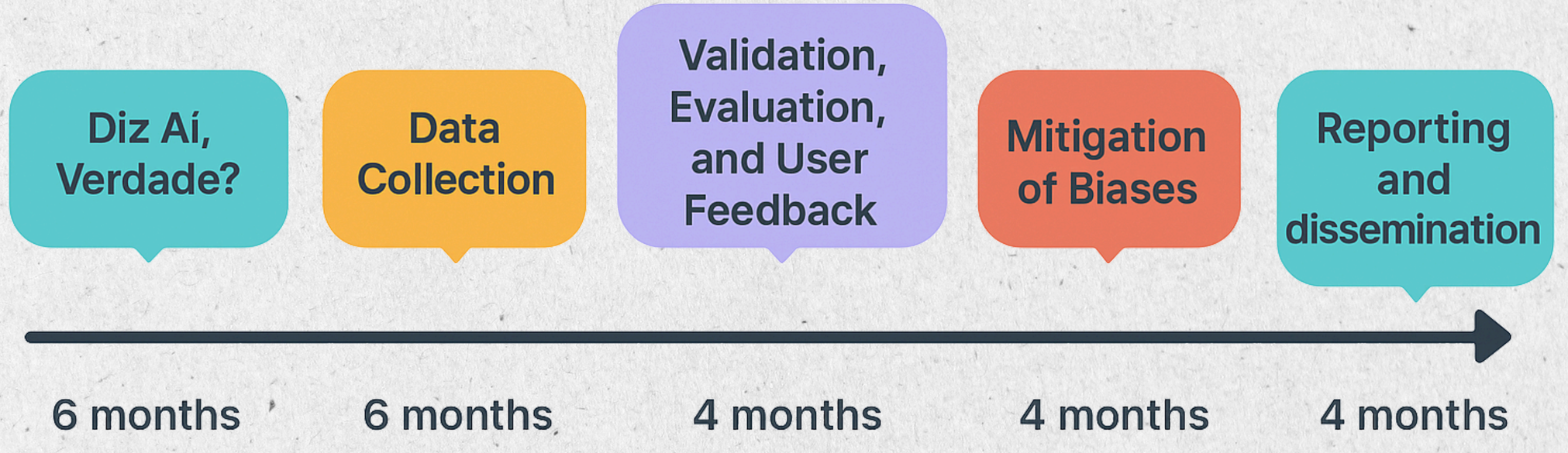
# THE BOT IN ACTION - DOMINIQUE V.1



# PLANNED PHASES SUPPORTED BY THIS FUNDING - VERSION 2



# TEAM STRUCTURE

**Name:** André de Carvalho
**Position:** Dean and Professor
**Responsibility**: PI - Project Coordination.

André de Carvalho holds a Bachelor's (1987) and a Master's degree (1990) in Computer Science from the Federal University of Pernambuco (Brazil), and a PhD in Electronic Engineering from the University of Kent, UK (1994). He is a Full Professor and currently the Director of the Institute of Mathematics and Computer Science (ICMC) at the University of São Paulo (USP). He is a Member of the Brazilian Academy of Sciences (ABC), a CNPq Research Fellow (Level 1A), and Vice-Director of the Center for Artificial Intelligence and Machine Learning (CIAAM-USP). Internationally, he serves on several boards, including the AI4GH Steering Committee (IDRC, Canada), the INGSA Latin America and Caribbean Steering Committee, and the UKRI ART-AI Advisory Board at the University of Bath. Prof. Carvalho coordinates the IARA Network and the IFIP WG12.2 Working Group on Machine Learning and Data Mining. He is a former Vice-President of the Brazilian Computer Society (SBC) and has served as a member of the CNPq Computer Science Advisory Committee (2018–2021, 2024–2027). **He has published hundreds of articles in major conferences and journals, received several awards, and received over 24,459 citations. He was also named one of the most influential Brazilian researchers in computing worldwide.**

# TEAM STRUCTURE

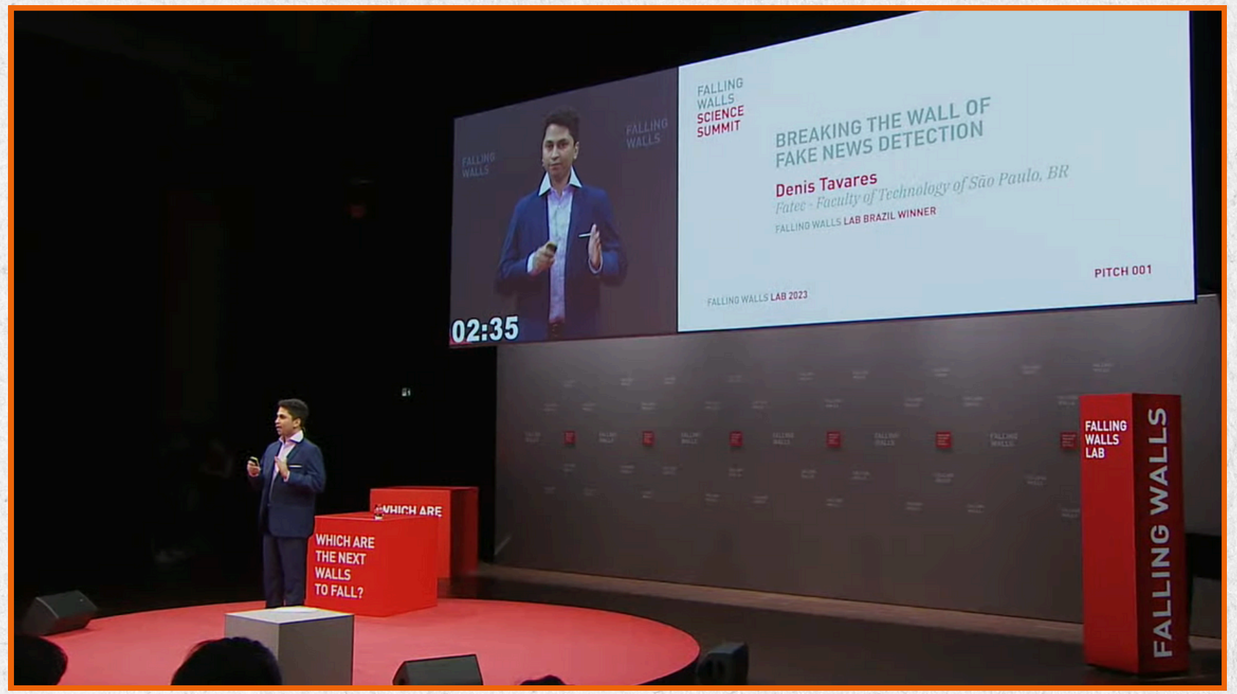
**Name:** Robson Bonidia
**Position:** Professor
**Responsibility:** Co-PI - Design and deliver capacity-building activities for the teams engaged in the project.

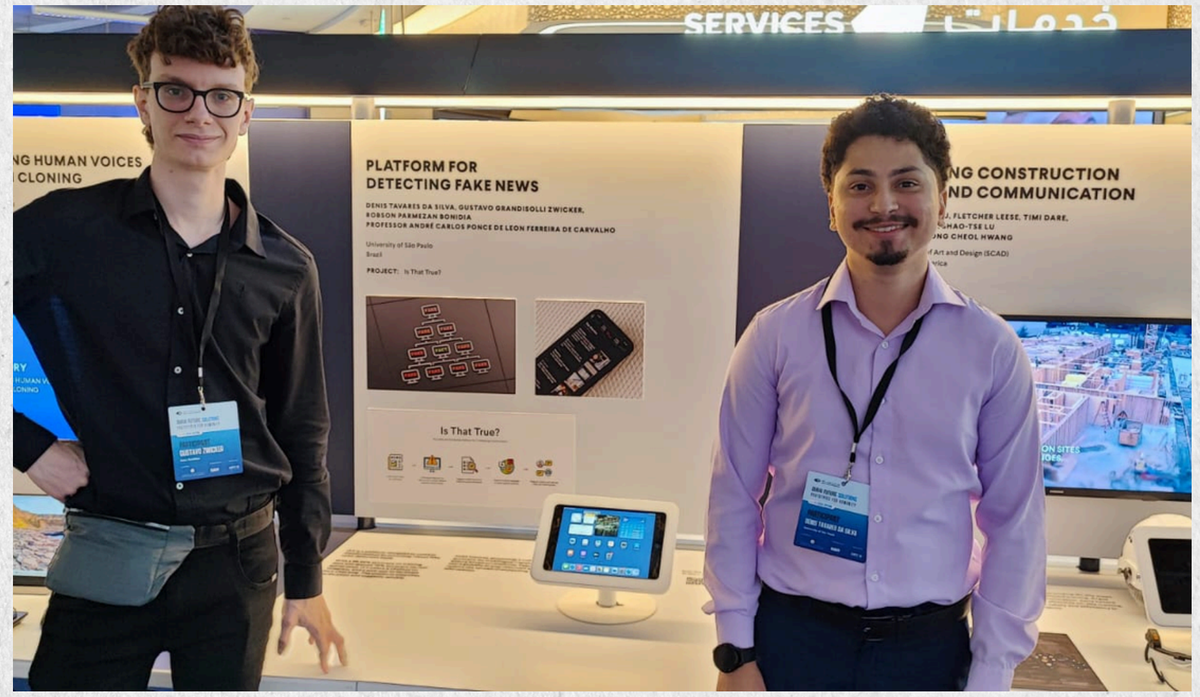
Robson Parmezan Bonidia is an AI researcher, educator, and social innovator dedicated to democratizing Artificial Intelligence for the Global South. With over 30 awards and recognitions, his groundbreaking projects—such as InteliGente and BioAutoML—have impacted thousands of people. His work has been featured in major media outlets and endorsed by institutions like Google, AI4PEP, and FRIDA. A firm believer in AI for social good, Robson empowers educators, students, and scientists to harness AI ethically and responsibly, bridging the gap between cutting-edge technology and underserved communities. He holds a Ph.D. in Computer Science and Computational Mathematics from the University of São Paulo (USP). He also earned a degree in Information Security Technology from the Faculdade Estadual de Tecnologia de Ourinhos (FATEC — Centro Paula Souza), and holds a specialization in Computer Networks and a Master's degree in Bioinformatics, both from the Federal University of Technology – Paraná (UTFPR). Currently, he serves as a member of the Steering Committee of the Global South Artificial Intelligence for Pandemic and Epidemic Preparedness and Response Network (AI4PEP) and is a professor at UTFPR — Cornélio Procópio campus.

# PARTNERS

If accepted, the proposal will have the support of several institutions, including the **University of São Paulo**, **AI4PEP (16 countries in the global south), INCT AI For Social Good, InteliGente Hub, the University of Porto, Federal University of Technology – Paraná, USP Endowment Fund, and the State of Paraná.** Our team is also in dialogue with partner organizations to bring this project to marginalized communities, including Indigenous, Quilombola, and riverside communities.

# AWARDS




Winning Team, 1st place, **"Breaking the Wall of Fake News", Falling Walls Lab Brazil 2023**, Falling Walls Foundation, DAAD, The German Center for Research and Innovation.

**One of the 100 proposals selected from 2700 submissions**, from more than 100 countries, to participate in Prototypes for Humanity 2024.

# AutoAI-Pandemics

Democratizing Machine Learning

ICMC USP SÃO CARLOS

GLOBAL SOUTH AI4PEP NETWORK · SUD GLOBAL RESEAU AI4PEP

UTFPR UNIVERSIDADE TECNOLÓGICA FEDERAL DO PARANÁ