Mindbugs Discovery

Empowering media with AI

against disinformation

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Team

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Bachelor's Degree in Computer Science from Babes-Bolyai University
Master's Degree in Business Administration with a specialization in Industrial Businesses from Lucian Blaga University Sibiu
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3 Years of Full-Stack Development at MindBugs Discovery
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MindBugs Discovery Tool: Project Overview

Abstract

The disinformation landscape presents itself as a **chaotic web of false information**. The MindBugs Discovery project proposes to combat this issue by developing a web tool that **visualizes the structure of misleading information**. The tool aggregates information from verified fact-checking organizations and offers a birds-eye view on disinformation. Our solution involves deep learning techniques for extracting and tagging fake news data, which is then connected inside a knowledge graph to reveal the structure of disinformation and allow users to explore and visualize similar narratives.

The research aims to shed light on the mechanisms of disinformation, empowering users to better understand and combat deceptive narratives.

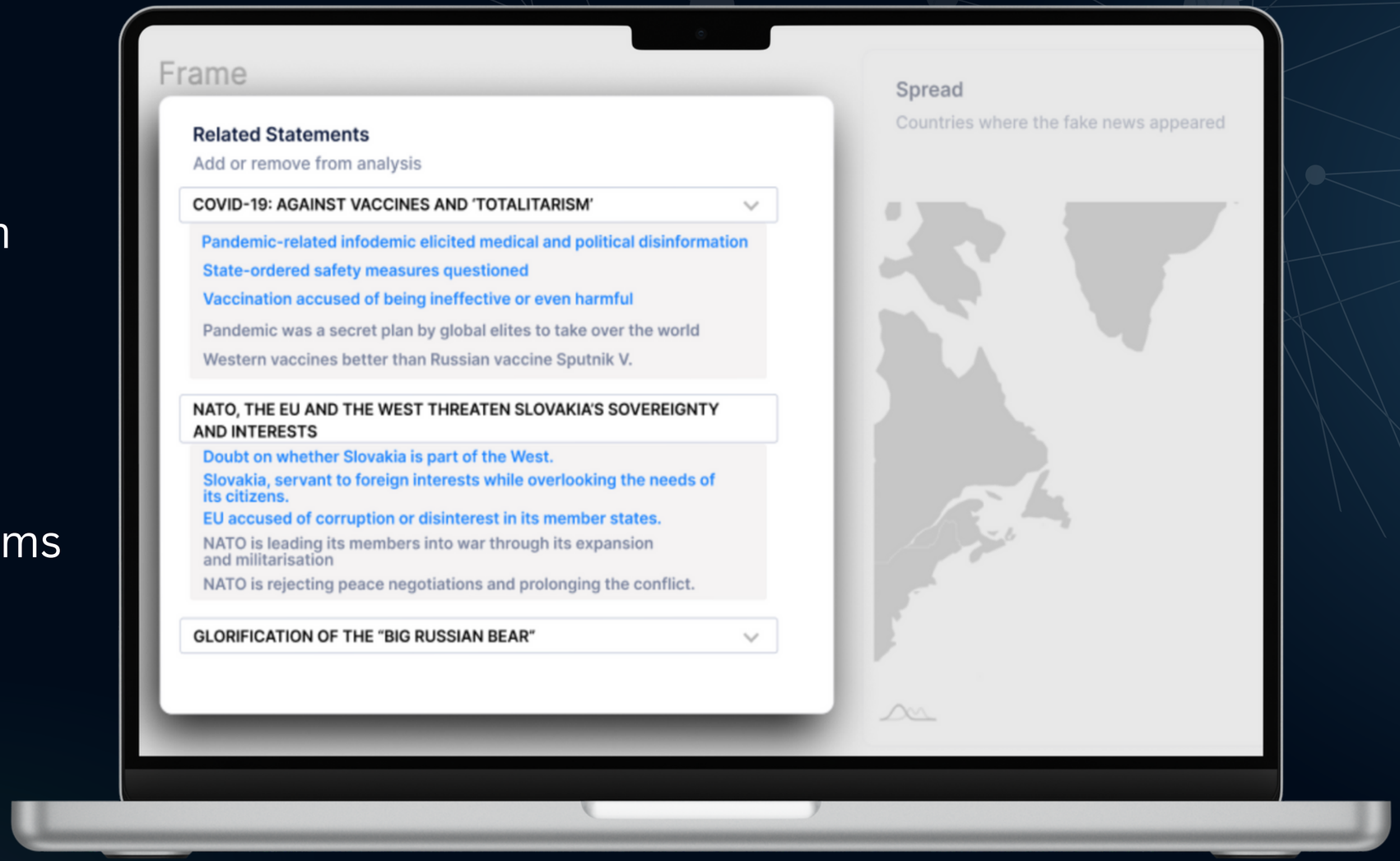
MindBugs Discovery Tool: User Experience

Future Work

Automatic narrative detection

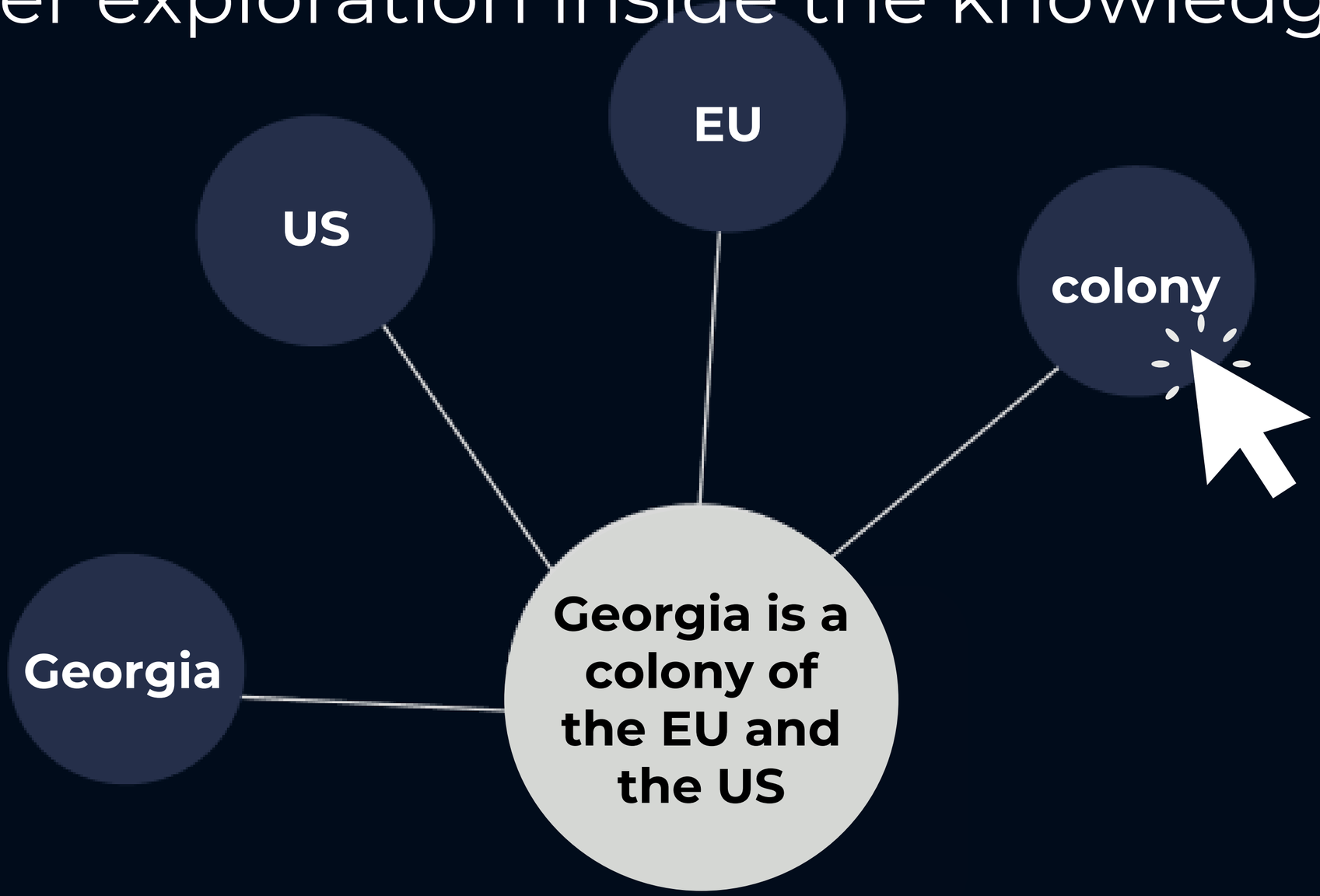
Identify and extract underlying narratives from similar disinformation statements.

By recognizing recurring patterns, this approach aims to improve the tool's accuracy and readability.



Future Work

Deeper exploration inside the knowledge graph



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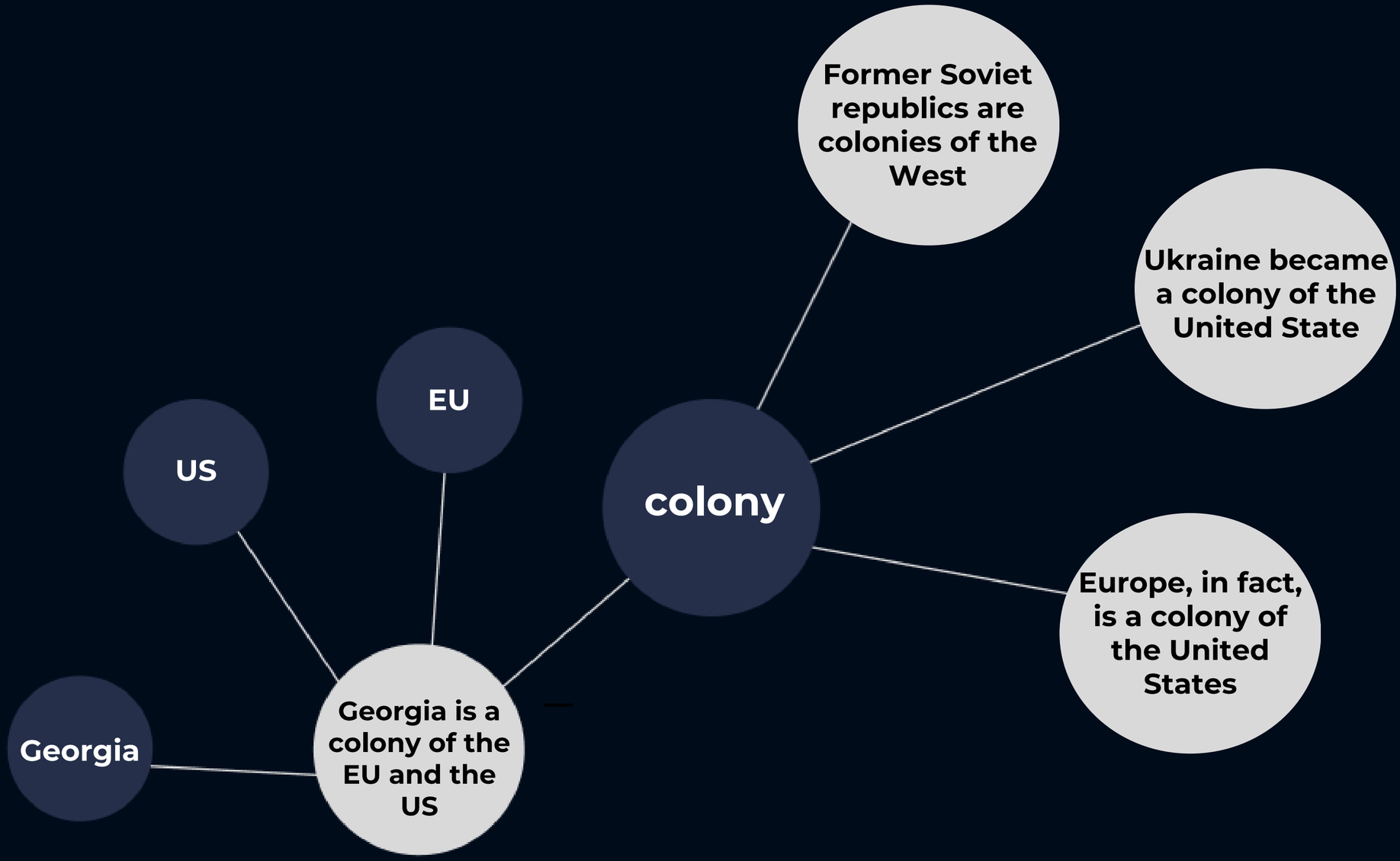

MindBugs Discovery Tool: User Experience

Upon accessing the MindBugs Discovery Tool, users are greeted by the main page, designed for straightforward interaction:

1. **Starting Point:** Users can begin their journey by entering a query or choosing from system-suggested queries, facilitating a user-friendly entry into the tool's capabilities.
2. **Results Display:**
   - **Closest Matches:** The tool efficiently searches its database, presenting users with the nearest results to their query.
   - **Result Options:** On one side, a list allows users to filter results to refine their search further.
   - **Global Impact Visualization:** A world map showcases the spread of narratives by country, enhancing understanding of disinformation's reach.
   - **Detailed Insights:** Information about dissemination channels and a timeline provide depth, offering insights into the narrative's frequency, time intervals, and global distribution pattern.

This structured approach ensures that users can effectively navigate the tool, from initial query to detailed analysis of disinformation spread, making the complex web of false narratives more accessible and comprehensible.

MindBugs Discovery: Technical overview

The Data

Data from verified fact-checking sites undergoes rigorous verification by journalists to ensure accuracy, does not contain any personal information. The goal is to compile a global database from trusted sources like correctiv.org, demagog.pl, demagog.cz, and factcheck.org., enhancing user access to reliable information.

Parsing

Content is automatically translated to English and analyzed using entity recognition and keyword extraction. This process distills significant entities and keywords from the content, preparing it for integration into the knowledge graph.

Search Process

Utilizes the OpenAI text-embedding model for vector representation of statements, facilitating the identification of similar disinformation narratives. An interactive interface allows users to explore the knowledge graph, uncovering connections and enhancing understanding of disinformation.

MindBugs Discovery: Visualizing the Web of Disinformation

- **Objective:** Develop a web tool to visualize the structure of disinformation, offering insights into deceptive narratives to specialists and the public.
- **Approach:**
  - Utilizes deep learning techniques to extract and tag data from verified fact-checking organizations.
  - Employs a knowledge graph to connect and reveal the structure of disinformation, enabling exploration and visualization of similar narratives.
- **Innovation:**
  - Provides a comprehensive birds-eye view on disinformation, contrasting with previous efforts that relied on limited data sources or automatic classifiers.
- **Impact:**
  - Aims to illuminate the mechanisms of disinformation, empowering users with the knowledge to understand and counteract deceptive narratives effectively.

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