

## Website Credibility Assessment

In an era where misinformation spreads rapidly online, assessing the credibility of websites is crucial. This project aims to implement a Python-based **Website Credibility Assessment System**, which evaluates the reliability of a given URL based on multiple factors such as domain type, accessibility, and domain age. The goal is to provide users with a **quantitative credibility score** along with an explanation of how that score was determined.

### Implementation

The core of this project lies in developing a **Python function** that automates the process of credibility assessment by leveraging publicly available data. The function follows a structured approach:

1. **Domain Evaluation:** The function extracts the **Top-Level Domain (TLD)** from the given URL (e.g., .gov, .com, .edu) and assigns a credibility weight. This is based on the general trustworthiness of different domain types—**government and educational domains** are typically more reliable than generic commercial or lesser-known domains.
2. **Website Accessibility Check:** The function attempts to **connect to the given website** and retrieve its HTTP status code. Websites that return a successful 200 OK status are considered more credible than those that are unreachable or return errors.
3. **Domain Age Assessment:** Using WHOIS lookup data, the function determines **how long the domain has been registered**. Older domains are generally more established and reliable than newly created ones. If domain age information is unavailable, an average age assumption is used to ensure the credibility assessment remains functional.
4. **Final Credibility Score Calculation:** The credibility score is calculated based on the domain type, website accessibility, and domain age. Each factor contributes to the overall score, ensuring a balanced evaluation. The final score is accompanied by a **human-readable explanation**, making it easy to interpret.

### Significance of the Project

In today's digital landscape, misinformation and unreliable sources can easily spread, making it essential to evaluate the credibility of online content. This project addresses that challenge by developing a Python-based credibility assessment system for websites. By analyzing key factors such as domain type, website accessibility, and domain age, the system generates a credibility score that helps users determine the trustworthiness of a given source.

This implementation is particularly useful for organizations that rely on factual accuracy, such as fact-checking agencies, journalists, researchers, and cybersecurity teams. It can be integrated into larger applications to filter out unreliable sources, assist in automated

content verification, or support decision-making processes where credible information is crucial. Additionally, this solution provides an efficient alternative to manual credibility assessment, reducing the time and effort required to analyze sources. By leveraging automation and data-driven evaluation, this project contributes to promoting reliable information consumption and mitigating the risks associated with misinformation.