



InfoGuard



Your Shield Against Misinformation

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Motivation

- Predatory journal articles surged from around **53,000** articles in 2010 to over **420,000** articles in 2014 (Shen & Björk, 2015).
- **96%** of high schoolers failed to question a fossil fuel-funded website's credibility on climate science (Breakstone et al., 2019).
- Patients misled by inaccurate online health info had **2 times** the mortality risk over 5 years (Swire-Thompson & Lazer, 2020).

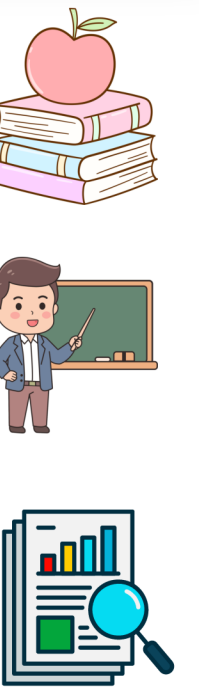


Description

1. **Highlight** the text you want to **analyze** for factual accuracy.
2. Open the extensions menu.
3. Click the analyze button on the extension pop-up.
4. Receive an accuracy score based on information from **verified sources**. The highlighted text is color-coded from green to red to show the **accuracy** of each section. The numerical details about the accuracy score are available on the extension pop-up.

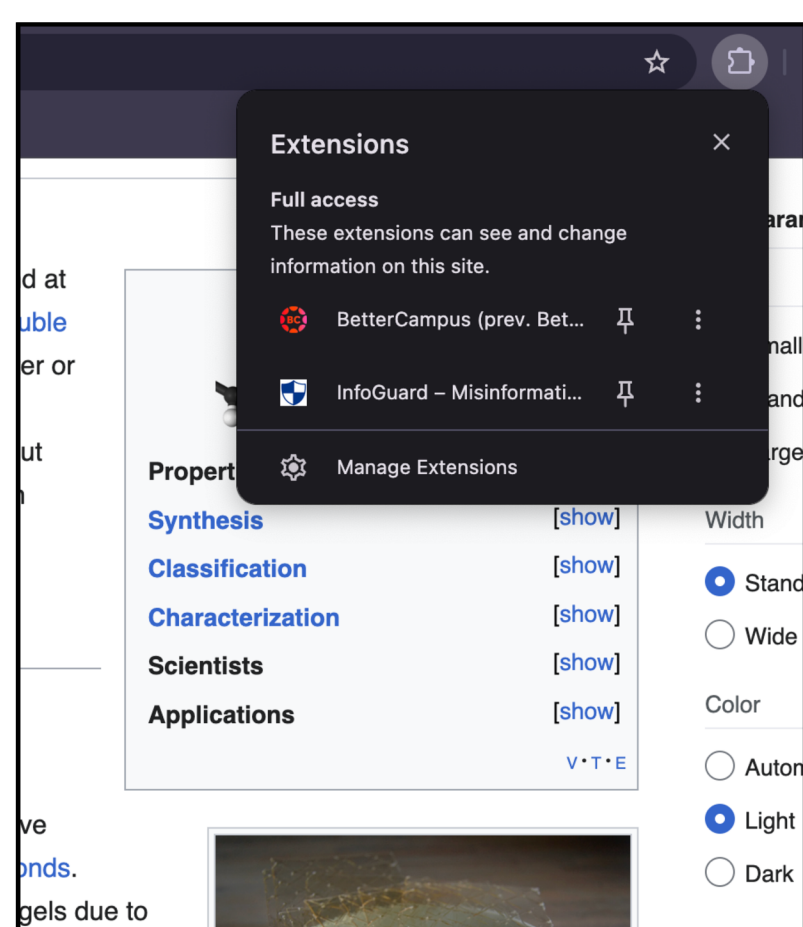
Target Audience

- **Students (13+)**: Quickly verify sources for essays & research without deep manual evaluation.
- **Teachers & Educators**: Screen materials before sharing; check student work for accuracy.
- **Research Professionals**: Cross-reference sources to ensure credibility of their writing.

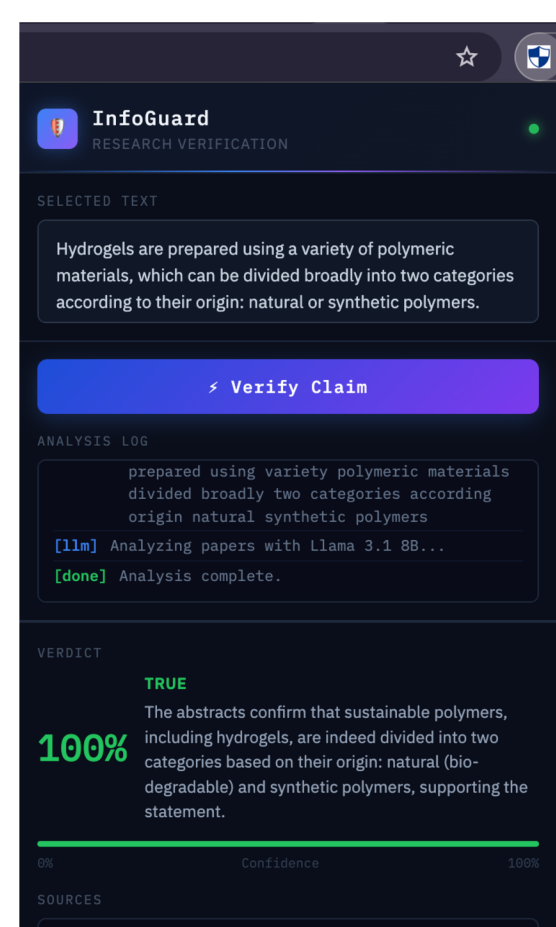


Screenshots and Images

Extension Menu



Claim Verification

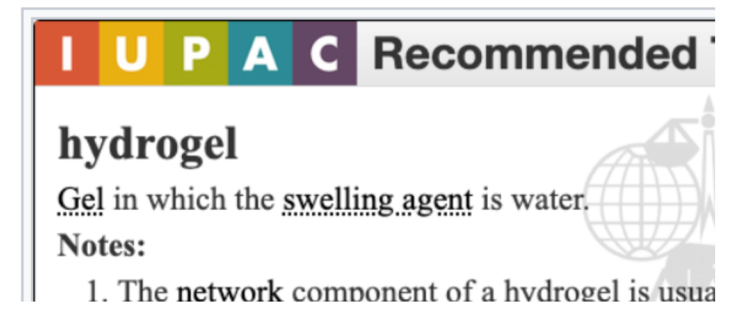


Sources Display

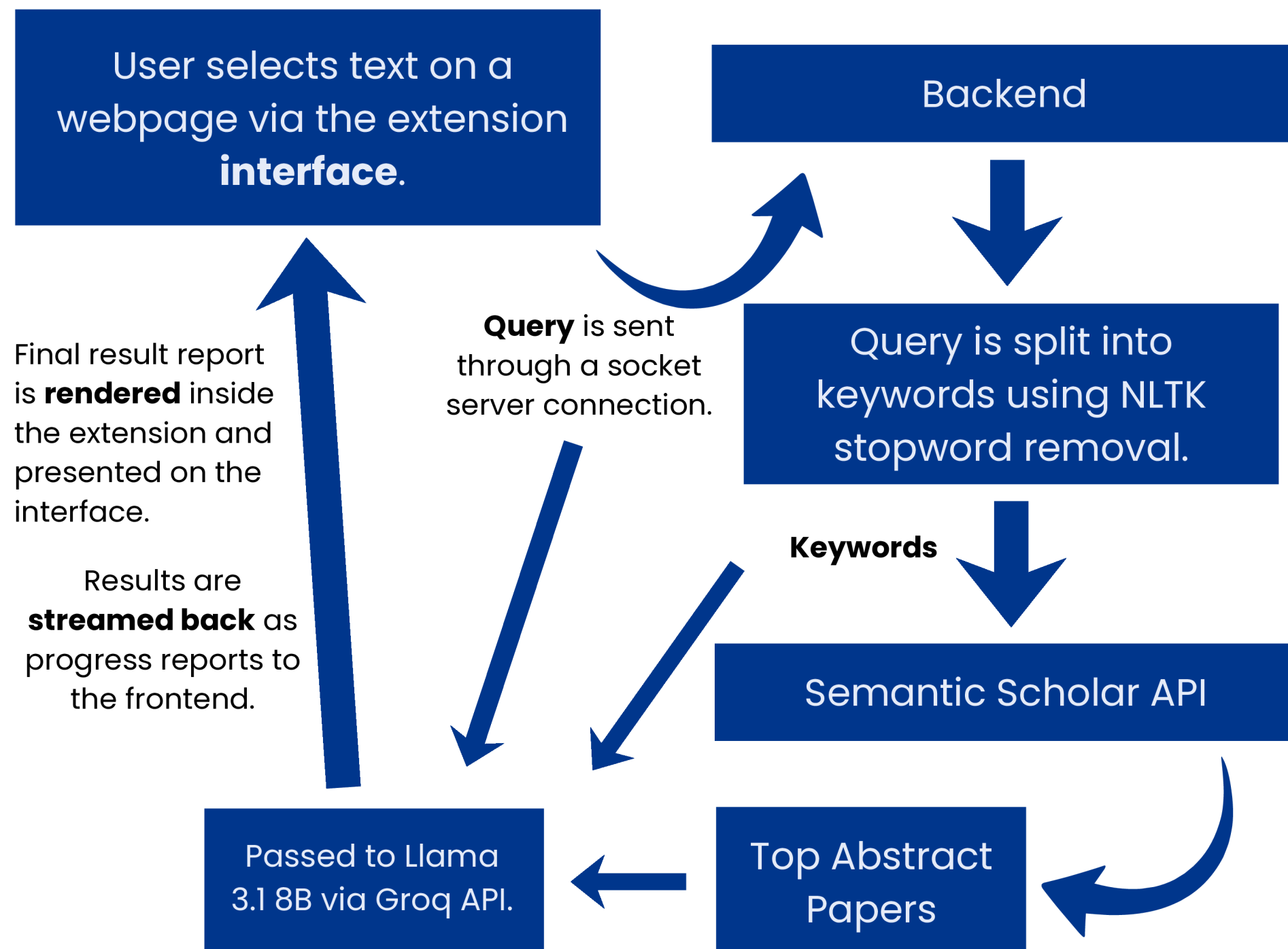


Highlighted View

Hydrogels are prepared using a variety of **polymeric materials**, which can be divided broadly into **two categories** according to their origin: **natural or synthetic polymers**. **Natural polymers** for hydrogel preparation include **hyaluronic acid, chitosan, heparin, alginate, gelatin and fibrin**.^[18] **Common synthetic polymers** include **polyvinyl alcohol, polyethylene glycol, sodium polyacrylate, acrylate polymers and copolymers thereof**.^[6] Whereas **natural hydrogels** are usually **non-toxic**, and often provide other advantages for medical use, such as **biocompatibility, biodegradability, antibiotic/antifungal effect** and improve **regeneration** of nearby tissue, their **stability and strength** is usually much lower than synthetic hydrogels.^[19] There are also synthetic hydrogels that can be used for medical applications, such as **polyethylene glycol (PEG), polyacrylate**, and



Architecture



Algorithms

- **NLTK Tokenization & Stopword Removal**: Breaks the user query into individual words and strips out common filler words to extract only meaningful keywords.
- **LLM Completion Inference**: Uses academic abstracts as context to guide the model toward a grounded, evidence-based accuracy verdict.

Tools and Technology

- **NLTK Library**: Tokenization and stopword filtering for keyword extraction.
- **Semantic Scholar**: Keyword search and abstract fetching from top research papers.
- **Groq**: LLM inference engine for the final accuracy result.



Future Steps

Multi-Language Support

- Analyzes and fact-checks content written in **multiple languages**.
- Expands **accessibility** for non-English speaking students and researchers.
- Compares claims against reliable sources across different languages.



Full-Page Scan

- **Automatically** splits **entire documents** into claims.
- Runs all claims through the verification pipeline at once.
- Produces a color-coded reliability overlay of the whole page.



Personalized History

- Saves a local **log** of all **previously analyzed content**.
- **Bookmark** and **share** trusted sources with others.
- Educators can **flag** unreliable sources and share such details to peers.

