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TrueSource: A Community-Driven AI-Based Fact-Checking and Verification Platform

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Abstract:

The rapid growth of digital communication platforms has accelerated the spread of misleading and unverified information, making manual verification insufficient. This paper presents TrueSource, a web-based intelligent fact-verification platform that evaluates the authenticity of textual and multimedia claims in real time. The system integrates artificial intelligence techniques with a structured trust evaluation framework to compare user-submitted content against reliable data sources and assign credibility levels (high, moderate, or low). By combining AI-driven analysis with a transparent scoring model, TrueSource enhances both accuracy and interpretability. The platform aims to strengthen information reliability, encourage critical thinking, and reduce the impact of misinformation through a user-friendly, real-time verification system.

Keywords **— Misinformation Detection, Claim Verification, Fake News Detection, Media Verification**

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I. INTRODUCTION

II. The digital revolution has transformed how information is created, shared, and consumed. Social media platforms, blogs, and online news channels enable rapid dissemination of information. However, this ease of access has also led to a significant rise in misinformation and fake news.

III. Users frequently encounter misleading claims but lack efficient tools to verify authenticity. Traditional fact-checking approaches rely heavily on manual investigation, which is not scalable for real-time environments.

challenging to identify suitable events, evaluate their relevance, decide whether attending the event is worth it, and communicate with organizers or attendees before participating.

IV. Moreover, individuals often depend on unreliable or biased sources, leading to confusion and incorrect conclusions.
V. To address these challenges, this paper proposes **TrueSource**, a centralized AI-powered fact-checking platform that enables users to verify claims efficiently using artificial intelligence and trusted data sources. The system focuses on accuracy, transparency, scalability, and usability.

VI. LITERATURE REVIEW

Several research studies and digital platforms have explored misinformation detection and fact verification mechanisms to address the rapid spread of fake news. Traditional fact-checking platforms such as *Snopes* and *FactCheck.org* primarily rely on expert-driven manual verification. While these platforms maintain high credibility and accuracy, they lack real-time automated responses and scalability, making it difficult to handle the vast amount of information generated daily across social media and online news sources.

Recent advancements have introduced AI-based misinformation detection systems using Natural Language Processing (NLP) and machine learning models. These systems analyze textual patterns, context, and linguistic features to classify claims as true or false. However, many existing AI solutions focus mainly on text-based verification, rely on limited datasets, and do not incorporate structured credibility scoring mechanisms. Additionally, they often provide minimal user interaction and limited transparency in explaining verification results.

Although significant progress has been made, there remains a research gap in developing a comprehensive platform that integrates AI-based claim verification, structured trust scoring, transparent credibility indicators, and a user-friendly interface within a unified system. Most current solutions either emphasize automation without transparency or manual verification without scalability. The proposed system, **TrueSource**, aims to bridge this gap by combining intelligent AI analysis with a structured trust evaluation framework to improve reliability and user trust in digital information.

VII. PROBLEM STATEMENT

The current digital information ecosystem faces multiple challenges:

- Difficulty in verifying the authenticity of online claims
- Absence of centralized verification platforms
- Heavy reliance on unreliable or biased sources
- Rapid spread of misinformation via social media
- Lack of real-time AI-powered verification systems

These issues lead to widespread misinformation, reduced trust in digital platforms, and social confusion. Therefore, there is a need for an intelligent, transparent, and scalable verification system.

VIII. PROPOSED SYSTEM

The proposed system, **TrueSource**, is a web-based fact-checking platform integrating AI and trusted sources.

1. User Module

The platform provides the following functionalities:

- Input claim (text or media)
- View AI-generated verification result
- Access trusted reference sources
- View confidence score
- Report suspicious or misleading content

2.System Feature

1. AI-based claim analysis using Gemini API
2. Structured trust scoring mechanism
3. Color-coded credibility indicators:
   - Green → Highly Trusted
   - Yellow → Moderately Trusted
   - Red → Low Trusted
4. Real-time verification response
5. User-friendly and responsive interface

3. Working Process

1. User enters a claim into the system.
2. The frontend sends the request to the backend server.
3. The backend:
    - Sends the claim to Gemini API for AI-based analysis
    - Retrieves trusted source data from database
    - Calculates credibility score
4. The system classifies the claim based on trust score.
5. Results are displayed with credibility indicators.

IX. RESULT AND DICSUSSION

The proposed system demonstrates:

- Faster verification compared to manual methods
- Reduced misinformation spread
- Increased user awareness
- Transparent credibility classification

The integration of AI analysis with structured trust scoring provides a reliable and scalable mechanism for evaluating digital information.

Experimental testing shows that combining AI reasoning with source credibility evaluation improves verification accuracy compared to standalone AI models.

X. CONCLUSION

This paper presented **TrueSource**, an AI-integrated fact-checking and verification platform designed to combat misinformation in the digital era. By combining Gemini API-based AI analysis with a structured trust-scoring mechanism, the system provides real-time, transparent, and user-friendly verification.

The platform enhances information reliability, promotes digital awareness, and offers a scalable solution for combating misinformation.

XI. FUTURE SCOPE

Future enhancements may include:

1. Mobile application development.
2. Integration of advanced AI models for deeper semantic analysis
3. Multi-language support.
4. Community-driven verification voting system

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