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Analysis of AI Content Detector Tools

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Abstract

With the rapid development of AI technology, ChatGPT and other AI content creation tools are becoming common, and users are becoming curious and adopting them. These tools, unlike search engines, generate results based on user prompts, which puts them at risk of inaccuracy or plagiarism. This allows unethical users to create inappropriate content and poses greater educational and corporate data security concerns. AI content detection is needed and AI-generated text needs to be identified to address misinformation and trust issues. Along with the positive use of AI tools, monitoring and regulation of their ethical use is essential. When detecting content created by AI with an AI content detection tool, it can be used efficiently by using the appropriate tool depending on the usage environment and purpose. In this paper, we collect data on AI content detection tools and compare and analyze the functions and characteristics of AI content detection tools to help meet these needs.

Keywords: *AI Content Detector, ChatGPT, Generative AI*

1. Introduction

With the rapid development of AI technology, AI authoring tools such as ChatGPT, Bing AI, and Google Bard are gaining curiosity and adoption around the world. These tools allow users to easily enter questions or tasks and get completed results. Unlike search engines, these artificial intelligence engines generate answers or actions based on user prompts.

However, AI-generated content has no guarantees of accuracy and uniqueness, and may often be similar to other articles, inaccurate, or plagiarized. Because of this, many people are using it to produce content in a partially or completely unethical way. This can threaten education and corporate data security and compliance.

The ability to identify AI-generated text is becoming increasingly important, and people sometimes mistakenly trust information containing errors when using AI content detectors.

AI tools have positive uses, but they are not always used in an ethical manner. This is increasing the need for AI detection tools, which help identify text generated by AI models, providing transparency and ensuring that only high-quality content is published [1-3].

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In this paper, we will collect data on AI content detector tools and compare and analyze the functions and characteristics of AI content detector tools.

2. AI Content Detector

AI Content Detector refers to a software tool or system used to analyze text or other forms of content to detect inappropriate content, plagiarism, quality problems, or other issues. AI Content Detector is used in a variety of industries and is useful for websites, content platforms, academic research, news and media, social media platforms, education, and more. These tools help us maintain and improve the safety, reliability, and quality of our content.

The main features of AI Content Detector are as follows.

- AI Text Highlighting: This feature examines your content and helps you identify areas that need rewriting to give it a human-like feel. AI analyzes your content to highlight parts that are different from 100% human-written copies and helps you edit or adjust your text.

- Plagiarism Checker: This feature simplifies the use of multiple tools to evaluate content based on various parameters such as grammar, plagiarism, readability, generated AI, etc. The plagiarism check feature helps editors and managers conveniently check originality and quality.

- API Integration: This feature allows for seamless integration with other tools and platforms such as content management systems (CMS), social media platforms, and e-commerce platforms. This allows you to automate the content management and moderation process and reduce the need for manual review.

AI content detectors also utilize techniques such as “Perplexity” and “Burstiness” to identify patterns in text, measuring the predictive ability of language models and the degree of randomness in text. These features improve the quality and reliability of content and help with text analysis.

3. AI Content Detector Tools

3.1 Originality.ai

Originality.ai provides solutions for web publishers, enhancing their ability to protect the integrity of their publications with the most accurate AI content detectors. The solution offers an AI plagiarism checker, fact checker, and readability checker [4].

Automated fact-checking tools provide context and links to help you quickly check facts. It also provides a score indicating the percentage of content that is plagiarized.

The app highlights text and links to suspected source sites, making it easy to identify online content suspected of plagiarism. It also provides users with a Chrome extension that allows them to scan text in Google Docs.

You can add team members, view scan history, generate shareable reports, process automatic billing, paste text or upload files, import and scan URLs, and use tags. Through this, Originality.ai provides online content creators and editors with a comprehensive set of tools and services to help maintain the quality, authenticity, and integrity of their content.

Figure 1 shows a screen that scans text in Originality.ai to detect AI content. It shows that the scanned text is 100% AI content.

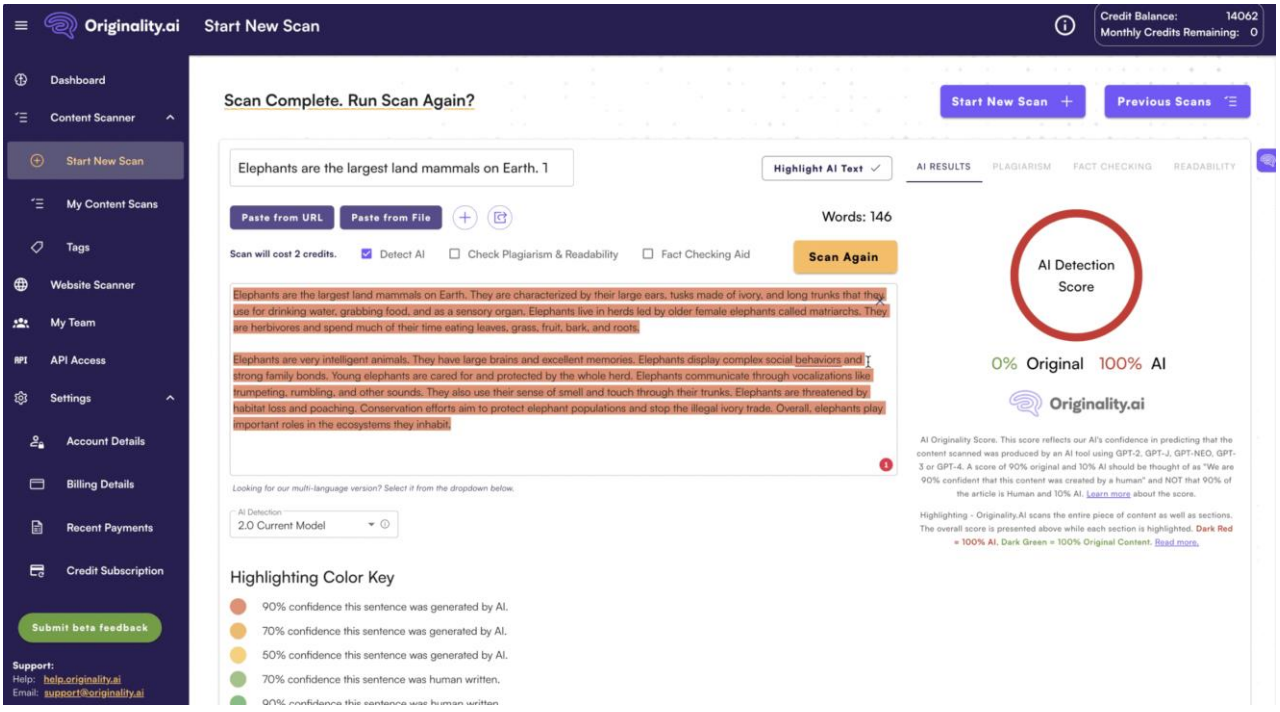

Figure 1. Originality.ai's scan screen

3.2 GPTZero

GPTZero is a classification model developed by Princeton University student Edward Tian that helps educators predict and detect text written by AI [5]. This model utilizes perplexity and burstiness to measure text characteristics.

- Perplexity: This metric measures the complexity of the text. GPTZero makes predictions by analyzing how confusing the text is. If GPTZero finds it "embarrassing," the text was likely written by a human. On the other hand, if it looks "familiar," it is interpreted as having been created by AI. This is how GPTZero evaluates the complexity of a text compared to the data it was trained on.

- Burstiness: This indicator measures the degree of sentence deformation in the text. AI bots generally tend to produce sentences of uniform, predictable length. Humans, on the other hand, tend to write using a greater variety of sentence variants. Therefore, burstiness allows us to distinguish between AI-generated text and human-written text.

These classification models help educators and users determine the reliability and quality of AI-generated content, and can be used to more accurately analyze and understand AI-generated text.

Figure 2 shows the main screen of GPTZero. As shown in the menu, it provides scan history, project, API, and team.

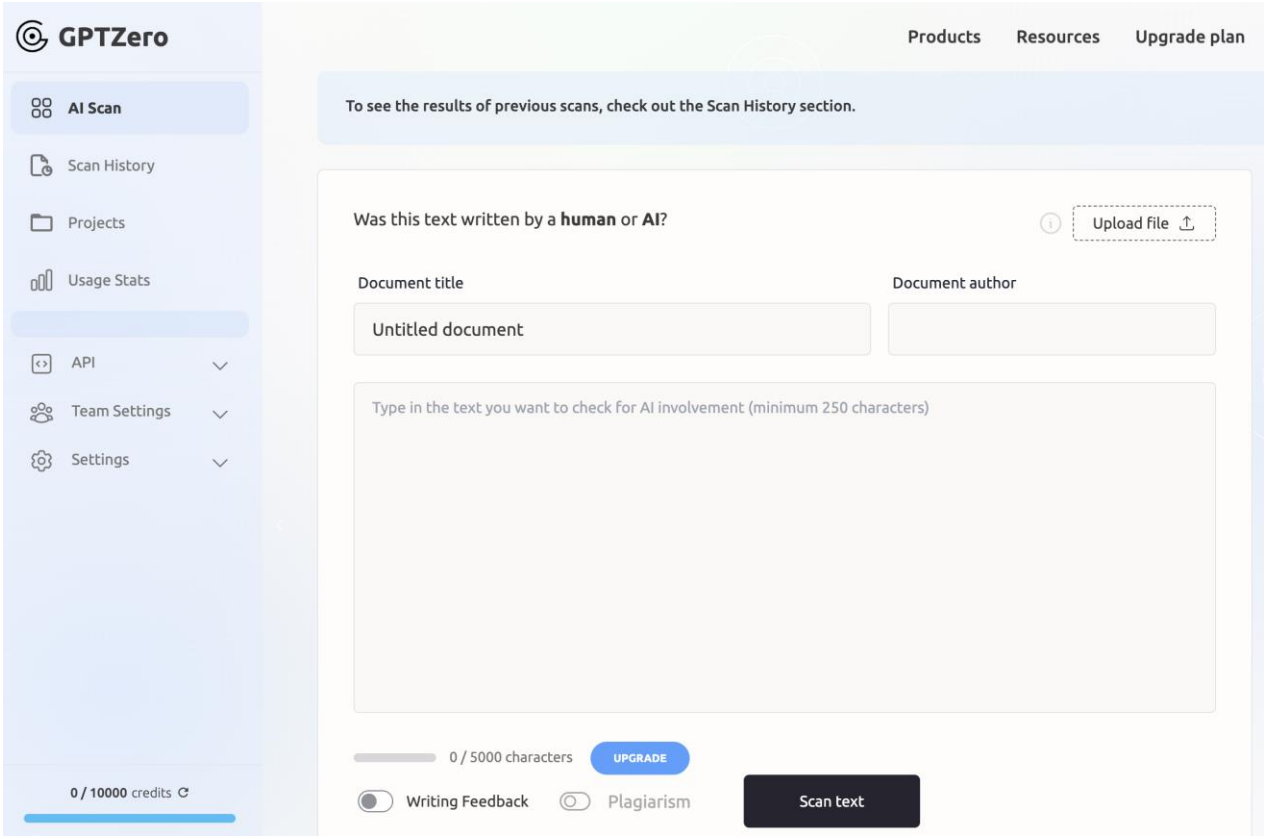

Figure 2. GPTZero's main screen

3.3 Winston AI

Winston AI is an AI detection tool developed for writers, educators, and web publishers. It can quickly scan text, paste text or upload documents in various formats such as .docx, .png, .jpg to check AI-generated content [6].

Winston AI uses optical character recognition (OCR) technology to easily extract text from scanned documents, photos, and even handwritten documents. This allows users to effectively analyze content in various formats and detect AI-generated content. This can help maintain the integrity and authenticity of the text and prevent inappropriate content.

Figure 3 shows a screen that scans text in Winston Ai to detect AI content. It shows that the scanned text is 100% AI content.

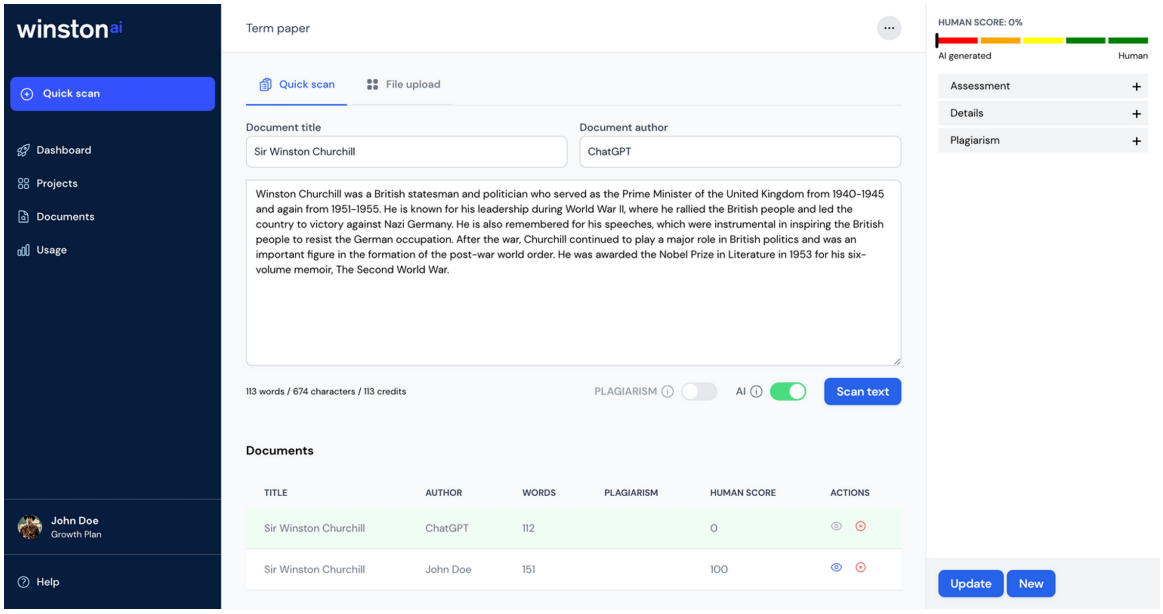

Figure 3. Winston AI's main screen

3.4 Content at Scale's AI Detector

Content at Scale's AI Detector is a free AI detection tool designed for content marketers and academics. The tool leverages trained models using natural language processing and artificial intelligence to detect patterns, predict likely word choices, understand sentence structure, and other characteristics [7].

This AI Detector measures the quality and characteristics of content and provides scores for humanity, plagiarism, and readability. More importantly, rather than giving you an overall score for your content, it actually flags it sentence by sentence, showing you exactly which parts have which issues. This allows users to clearly see what needs to be fixed.

Figure 4 shows the main screen of Content at Scale's AI Detector. When you enter text in the center of the screen and press the button at the bottom, it checks for AI contents and displays the results.

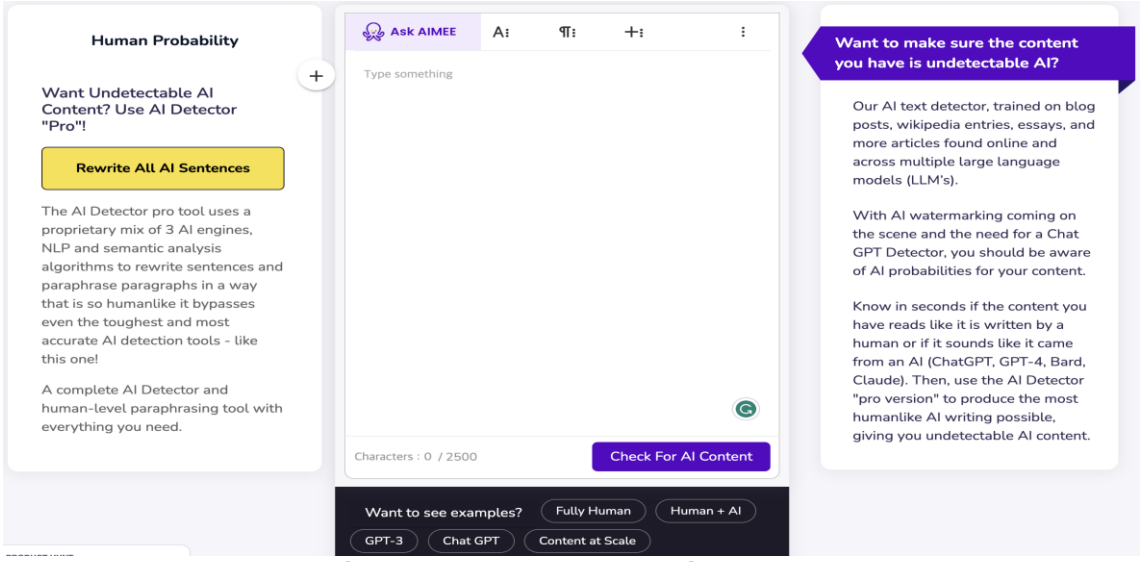

Figure 4. AI Detector's main screen

Figure 5 shows a screen displaying relevant flags in AI Detector's scan results. Flagged content is rated green, yellow, orange, or red, along with editing suggestions to achieve a higher human probability score. Users can utilize this tool to fix problems and help in creating quality content.

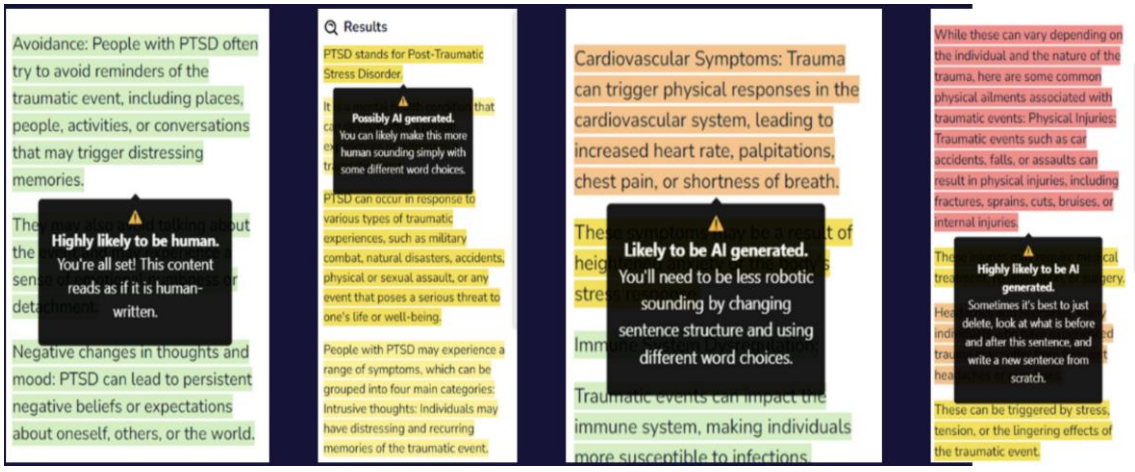

Figure 5. Screen displaying relevant flags in AI Detector's scan results

4. Comparison of AI Content Detector Tools

This section aims to compare and analyze AI content detector tools such as Originality.ai, GPTZero, Winston AI, and Content at Scale's AI Detector.

Table 1 shows a comparison of the functions of AI content detector tools. It shows that most tools provide plagiarism checking and highlight AI text, which shows that these are the minimum features that AI Content Detector Tools must have. Only some tools provide API Integration and OCR functions, but the OCR function allows you to scan characters in image files. Most tools use text or files as content, and Originality.ai uses website content to expand its usability.

Table 1. Features of AI content detector tools

Tool	Plagiarism checking	Highlight AI text	API Integration	OCR	Content
Originality.ai	Yes	Yes	No	No	Text, file, website
GPTZero	Yes	Yes	Yes	No	Text, file
Winston AI	Yes	Yes	No	Yes	Text, file
Content at Scale AI Detector	No	Yes	Yes	No	Text

Table 2 shows a comparison of AI Content Detector Tools' Multilanguage, Chrome extension, Model, Price. Most tools support the GPT series and Bard, which means that general users mainly use these models to create AI content. Originality.ai and GPTZero providc a chrome extension to support the ability to scan text in Google documents. While other tools are paid versions, Content at Scale's AI Detector is a free version and does not support plagiarism checking in Table 1.

Table 2. Multilanguage, chrome extension, model, and price of AI content detector tools

Tool	Multilanguage	Chrome extension	Model	Price
Originality.ai	English	Yes	ChatGPT, GPT-4, Bard	Paid
GPTZero	Yes	Yes	GPT-2, GPT-3, 3.5, ChatGPT	Paid
Winston AI	English, French	No	ChatGPT, GPT-4, Bard	Paid
Content at Scale AI Detector	Yes	No	ChatGPT, GPT4, GPT3, Bard, Claude	Free

Table 3 shows the AI content detection rate of AI content detector tools. To make 100% AI-generated content look like 100% human-generated content, all it takes is removing one letter or adding one word to the mix. We tested AI content detector tools using three types of AI content: removing commas, making typos, and using AI Paraphraser. We referred to Artturi Jalli's Originality.ai review for the related data set [8]. We did not test Winston AI and Content at Scale AI Detector because they are paid versions.

Table 3. AI content detection rate of AI content detector tools

Tool	Remove a Comma	Make a Typo	Use an AI Paraphraser
Originality.ai	99%	97%	95%
GPTZero	92%	92%	88%

Figure 6 to Figure 9 show the test cases of GPTZero. Figure 6 shows the test screen with the comma removed. We conducted a test by removing the comma after the word "Additionally" and entering the data. GPTZero shows that the input data is recognized as AI content with a 92% probability.

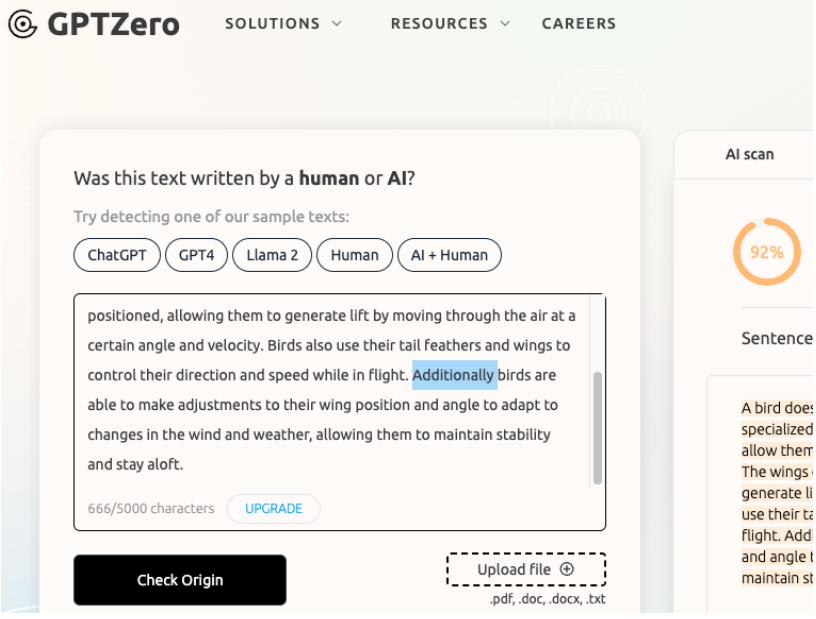

Figure 6. GPTZero's comma removal test screen

Figure 7 shows a test screen with data containing typos. The test was conducted by intentionally writing "ir" as "ther" without "i" and entering the data. GPTZero recognized the input data as AI content with a 92% probability.

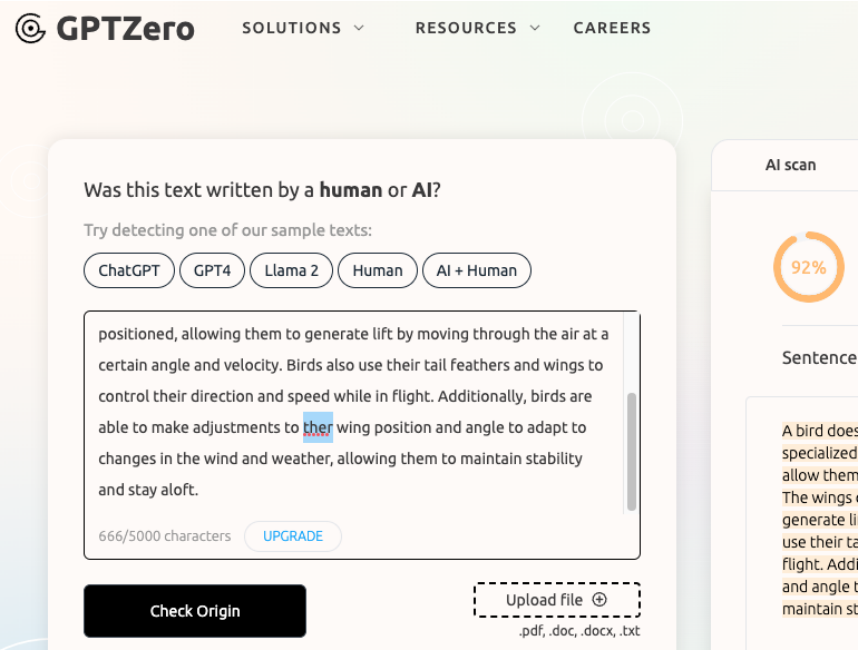

Figure 7. GPTZero's typo data test screen

Figure 8 shows the screen for rewriting text using QuillBot. QuillBot quickly rewrites AI-generated data [9].

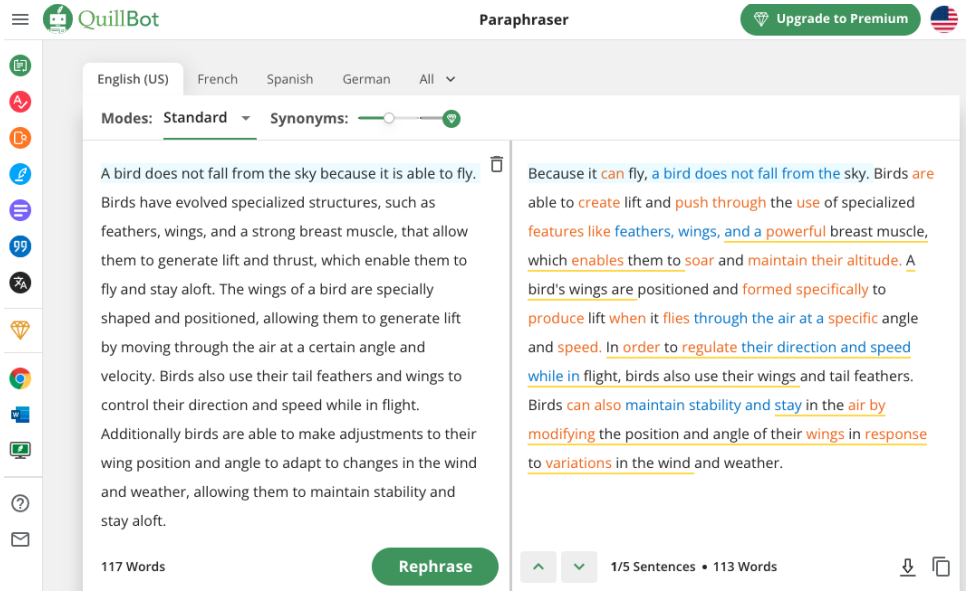

Figure 8. Screen to change text of data using QuillBot

Figure 9 shows a screen for testing rewritten text using QuillBot. It can be seen that GPTZero recognizes the input data as AI content with an 88% probability.

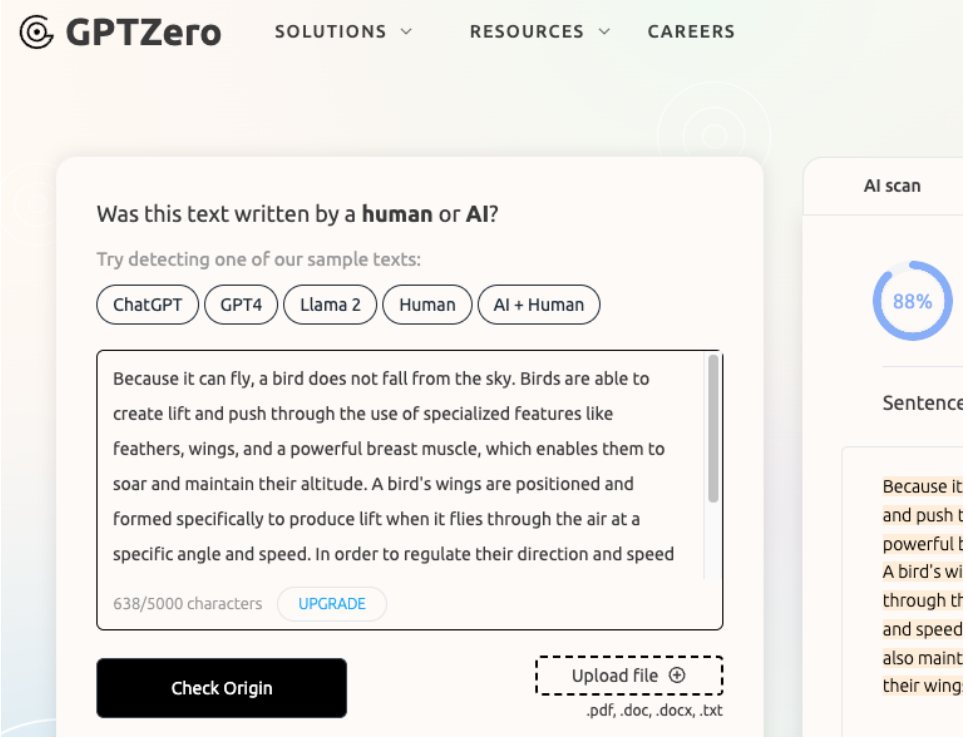

Figure 9. GPTZero's AI Paraphraser testing screen

5. Conclusion

These days, thanks to the latest advancements in AI, AI writing is commonplace, allowing you to create professional, well-thought-out, unique content in seconds that is indistinguishable from human-written text. It may be useful to try using an AI content detector to detect AI-created content. Appropriately in this regard, this paper investigated the functions and features of AI Content Detector tools such as Originality.ai, GPTZero, Winston AI, and Content at Scale's AI Detector. Most AI Content Detector Tools provide plagiarism checking and highlight AI text. It provides API Integration and OCR functions, and it can be seen that the scope of use of AI Content Detector Tools is expanded to text, document files, image files, and website content. Because general users often use the GPT series and Bard to create AI content, you can see that most tools support the GPT series and Bard. Additionally, you can see that a chrome extension is provided for user convenience. Our review of AI content detector tools can help those looking to detect AI content decide which AI content detection tool is right for their environment and purpose.

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