Plagiarism Scan Report

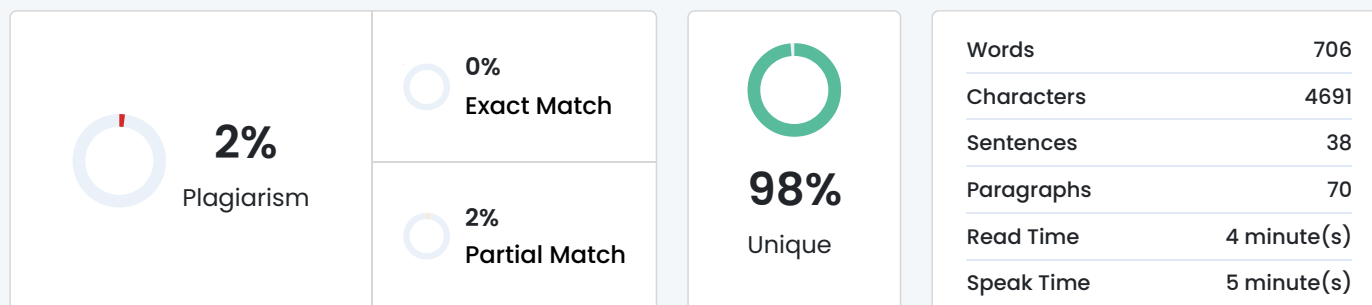|				
2% Plagiarism	**0%** Exact Match / **2%** Partial Match	**98%** Unique	Words	706
			Characters	4691
			Sentences	38
			Paragraphs	70
			Read Time	4 minute(s)
			Speak Time	5 minute(s)

Content Checked For Plagiarism

2.2. PRISMA Steps

Identification

In the identification phase, we gathered from seven CSV files, each CSV file contained results from literature searches conducted over the five academic databases: IEEE Xplore, ACM Digital Library, ScienceDirect, Google Scholar, and PubMed. We performed the searches by combining keywords related to "Artificial Intelligence", "Machine Learning", and "Attention/Focus". This stage resulted in 346 initial records.

Deduplication (DOI Link)

To eliminate duplicate studies, an automated Python program was used to compare the "DOI link" field across all records. As each DOI uniquely identifies a publication, this method reliably removes redundant entries. This step excluded 6 duplicate records, reducing the dataset to 340 unique papers.

Deduplication (Paper Title)

Some duplicate papers did not share an identical DOI link due to formatting issues or missing values. To address this, we used the same Python program[20] to normalize the "Paper Title" field (by converting to lowercase, stripping whitespace, and standardizing spacing). In this step, we removed an additional 3 records and resulting in a final dataset of 337 unique papers.

AI, ML, DL Relevance Filter

In this stage, we wrote another Python program[21] to keep only the papers whose titles mentioned AI-related terms.

• Firstly, we converted all characters to lowercase.

• Then we replaced all the hyphens (-) and slashes (/) with spaces too, so that compound words like "AI-based" and "AI/ML" become "AI-based" and "ai ml".

The script then matched cleaned titles against a list of AI-related keywords using regex. Only titles containing terms like "ai", "artificial intelligence", "ml", "machine learning", "dl", or "deep learning" were retained. After this filtering step, the dataset was reduced from 337 to 140 papers.

Attention & Mental Health Filter

In this stage, we wrote another Python program[22] to keep only those papers whose titles aligned with the core of our research objective: AI-powered methods for assessing attention and mental focus. To ensure perfect matching, the program used a curated list of over 50 keywords related to attention, cognitive function, and mental health conditions such as "attention-span", "cognitive-load", "ADHD", and "working memory". In this step, the paper dataset was reduced to 102 papers.

AI-Driven Method Filter

In this stage, we again used a Python script[23] to further refine the dataset by including only those papers whose titles mentioned AI-driven methodological terms. To achieve

this, the script uses a list of AI method keywords, including terms such as "detection",

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"assessment", "modeling", "learning", "prediction", and "classification". Regex with word boundary matching ensured accurate filtering without capturing partial words. As a result, 84 papers were included in the final dataset.

Contextual/Digital Setting Filter

In this step, we used another Python script[24] to keep only those papers whose titles mentioned a digital environment relevant to AI-powered attention research. The script matched the cleaned titles against a list of keywords representing digital platforms, educational settings, such as "digital", "learning", "social media", "application", "user behavior", and "human factors". The process reduced the dataset from 84 to 73 papers.

Manual Title Screening

In this stage, we manually checked the 73 papers that passed all previous automated program filters. We carefully examined the title of each paper to determine whether it directly aligned with our research. AI-powered methods for assessing attention and focus in digital environments. Papers that were off-topic, too general, focused on unrelated AI applications, or lacked a clear connection to attention/focus were excluded based on expert judgement. As a result, the dataset was reduced to a final set of 38 papers.

Abstract Screening

In this stage, we manually reviewed the abstracts of the remaining 38 papers to determine their high relevance to the research topic.

We used the following major points to make the judgment:

• AI/ML techniques applied to attention or focus assessment

• Use of relevant datasets and metrics

• Evidence of model effectiveness

• Discussion of technical challenges

• Suggestions for future directions

Papers that clearly addressed these points in digital environments, such as online learning, smart classrooms, and real-time monitoring systems, were kept. The process resulted in 25 papers. These are the papers that are mostly aligned with our research.

PDF Retrieval

Out of the 25 papers that we selected after abstract screening, we found full-text PDFs for 19 papers. These are the final 19 papers.

Matched Source

Similarity 2%

Title:What is a DOI? - LibAnswers - Libraries - University of Vermont

Like a person's social security number uniquely identifies one and only one person, a DOI uniquely identifies one and only one journal article. The�...Missing: publication, method

https://askalibrarian.uvm.edu/faq/416761