Panther Reference Verification User Guide

Developed by Darby Proctor, Ph.D.

Overview

This tool is a Python-based APA style reference checker designed to assist instructors and researchers in verifying the accuracy of student-submitted references. It analyzes citation information (e.g., titles, authors, DOIs) and checks them against publicly available bibliographic databases to identify potential issues such as missing metadata, incorrect formatting, or unverifiable sources.

Important: Human Judgement Required!!

This tool is intended for instructional support, reference validation, and research and teaching assistance. It is not intended to replace instructor judgment or serve as an automated grading system.

Instructors must manually determine whether potentially problematic references are real/accurate, as not all journals are indexed in CrossRef. Errors in references may result in false indicators of a reference being inaccurate (e.g., APA style errors, having a space within a DOI). Therefore, this is a tool to reduce the number of references which must be manually verified by instructors.

The tool has only been programed to work with APA 7th style references.

How the Tool Works

The user provides a local folder containing student papers. The program parses each reference locally on the user's machine. For verification purposes, the tool queries public bibliographic APIs to confirm that cited works exist and that their metadata is consistent.

The following public services may be queried:

- CrossRef API (journal articles and DOIs)
- PubMed API (journal articles and DOIs)
- Open Library API (books)
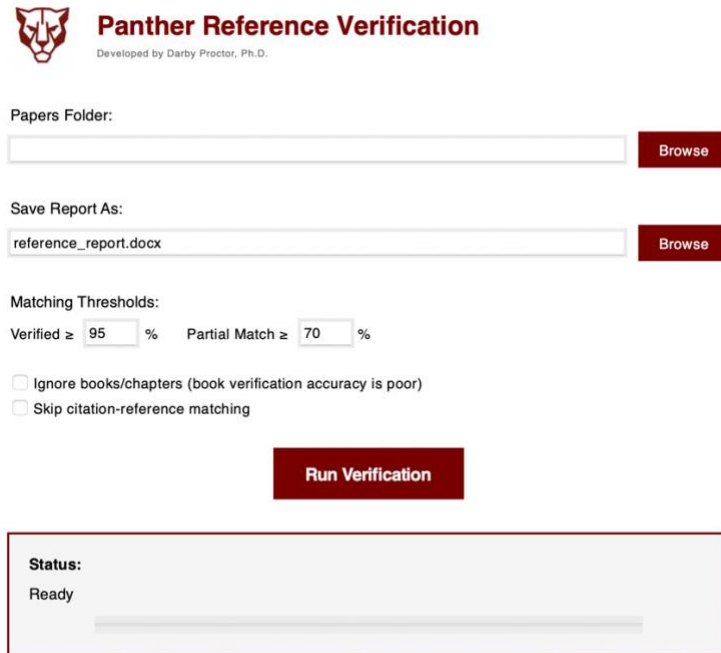- Google Books API (books and book chapters)

All requests are read-only metadata lookups. No student information is included.

Getting Started

Download the latest distribution for your computer from
https://github.com/DarbyP/Panther_Reference_Verification

Using the program

Below is a screenshot of the program interface.

Papers Folder: Choose the location for the papers (with references) to be verified.

Save Report As: Choose a name/location for saving the report. The default location is the same place the python script is stored. This report will include each student and any references that were not verified so that instructors may more easily focus on those references.

Matching Thresholds: You may change the percentage matches required for citations to be considered verified and partially matched. Partial matches are classified as between the partial match percentage and the verified percentage.

Ignore Books/Chapter: Books/chapters are not indexed in a centralized repository. Therefore, book verification accuracy is poor. To aid in book verification, the report will include clickable links to search for books. However, if you do not want to verify book, you may select the checkbox to ignore references for books/chapters.

Skip citation-reference matching: The program also will verify whether all in-text citations are found in the reference list and vice versa. Selecting this check-box will skip this step.

After reference verification, a Results Summary window will appear. Student and reference level indicators will be in the report.

Citation-Reference Matching Feature

The tool can optionally check whether all in-text citations have corresponding reference entries, and whether all references are actually cited in the paper. This feature is enabled by default but can be disabled by checking the "Skip citation-reference matching" checkbox.

What It Checks

For each paper, the citation matcher analyzes:

• In-text citations – All citations that appear in the body of the paper (before the References section)

• Reference list entries – All entries in the References section

Citation Formats Supported

The tool recognizes all common APA citation formats:

• Narrative (author in sentence): Smith (2020) found that…

• Parenthetical: This was shown (Smith, 2020).

• Multiple authors: Smith & Jones (2020) or Smith and Jones (2020)

• "et al." citations: Smith et al. (2020)

• "and colleagues": Smith and colleagues (2020)

• "and co-workers": Smith and co-workers (2020)

• Organization names: American Psychological Association (2017)

• Prefixes: (e.g., Smith, 2020), (see: Jones, 2019), (cf. Brown, 2018)

• Multiple citations: (Smith, 2020; Jones, 2019; Brown, 2018)

• Year letters: Smith (2020a) and Smith (2020b)

Report Output

When enabled, each student's section in the report includes a "Citation-Reference Matching" section showing:

Summary counts:

- Number of unique in-text citations found

- Number of reference entries in the list

Uncited References (⚠ Orange) – References that appear in the list but are never cited in the paper. This may indicate:

- References from earlier drafts that should be removed

- Formatting issues preventing proper matching

- References that were intended to be cited but forgotten

Missing References (⚠ Red) – Citations in the text that have no matching reference entry. This may indicate:

- Missing reference entries that need to be added

- Typos in either the citation or reference

- References that were deleted but citations remain

Success message (✓ Green) – If all citations match their references perfectly

Summary Statistics

Citation matching statistics appear in both the summary table at the beginning of the report and in the GUI results after processing.

Aggregated statistics across all papers include:

- Total In-Text Citations – Total unique citations across all papers

- Total Reference Entries – Total reference list entries across all papers

- Uncited References – Total references not cited in their papers

- Missing References – Total citations without matching references

Matching Logic

The tool matches citations to references by:

- Extracting author names (last names only)

- Normalizing year information (2020a → 2020)

- Preserving author order (important for "et al." citations)

- Using first author matching for "et al.", "and colleagues", etc.

Example: The citation "Dommeyer et al. (2002)" will match the reference "Dommeyer, C. J., Baum, P., & Hanna, R. W. (2002)" because "Dommeyer" is the first author in both.

Important Notes

Author order matters: Citations like "Smith & Jones (2020)" will only match references where Smith is listed before Jones. This is correct academic behavior.

Organization names: The tool handles multi-word organization names like "American Psychological Association" or "National Institutes of Health".

Case insensitive: Matching is case-insensitive (Smith = smith = SMITH).

Year letters: Citations with year letters (2020a) will match references with base year (2020).

Not a style checker: The tool only verifies that citations and references correspond; it does not validate APA formatting compliance.

Disabling This Feature

To skip citation-reference matching:

- Check the "Skip citation-reference matching" checkbox in the GUI

- This is useful if you only want to verify reference accuracy, not citation completeness

- By default, the feature is enabled (checkbox unchecked)

Data Privacy and FERPA Compliance

What Data Is Sent Externally

The tool sends only non-personal bibliographic metadata to external services, such as:

- Article or book title
- DOI (if present)
- Author last name(s)

What Data Is Not Sent Externally

At no point does the tool transmit:

- Student names
- Student ID numbers
- Email addresses
- Course identifiers
- Grades or evaluative comments
- Full reference lists as documents
- Any part of an education record as defined by FERPA

Student identifiers (e.g., names) are used only locally for labeling output reports and are never included in API requests or URLs.

FERPA Compliance Statement

This tool is FERPA compliant because:

- It does not disclose personally identifiable information (PII) from student education records to third parties.
- The only data transmitted externally consists of bibliographic metadata for published sources, which is not an education record under FERPA.
- All processing of student-associated information occurs locally on the user's machine.
- The tool does not store, log, or transmit student data to any cloud service.

From a FERPA perspective, the tool functions similarly to a web-based citation lookup performed manually by an instructor.

Data Security and Network Behavior

- No files are uploaded to the web
- No post requests are used
- No third-party analytics, telemetry, or tracking services are included
- No background data transmission occurs
- All external requests are initiated explicitly for citation verification

Disclaimer

Users are responsible for ensuring that use of this tool aligns with their institution's data governance policies. However, as designed, the tool does not transmit student PII and complies with common institutional interpretations of FERPA.