

What Is BibTeX Cleaner?

BibTeX Cleaner is a free, browser-based tool that automatically tidies up your BibTeX reference files (.bib) so they meet IEEE formatting standards. Whether you have ten references or a thousand, the tool scans every entry, fixes common mistakes, fills in missing information, and presents a side-by-side comparison so you can see exactly what changed before you copy the result.

Everything happens inside your browser. Your file is never uploaded to any server, so your research data remains completely private.

How to Use It

Using BibTeX Cleaner takes three steps:

- Provide your references -- drop a .bib file onto the upload area, click to browse for one, or simply paste the raw BibTeX text into the text box.
- Click "Clean BibTeX" -- the tool processes every entry instantly.
- Review the side-by-side diff -- original text on the left, cleaned text on the right. Changed parts are highlighted in yellow (original) and green (cleaned). Accept or reject individual line changes by hovering over them. When satisfied, click "Copy Cleaned" to copy the result to your clipboard.

1. Page-Range Dashes

BibTeX requires a double dash (--) between the start and end page numbers of a reference. A single dash is a common typing mistake, and sometimes extra spaces or multiple dashes appear as well. BibTeX Cleaner corrects all of these automatically.

```
Before:  pages = {18912-18936}
After:   pages = {18912--18936}
```

```
Before:  pages = {5983-  --5999}
After:   pages = {5983--5999}
```

This affects every entry type: @article, @inproceedings, @book, and others.

2. Month Abbreviations and Misspellings

IEEE style requires month names to be abbreviated in a specific way: Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec. BibTeX Cleaner converts any full month name or common abbreviation to the correct IEEE form. It also uses fuzzy matching to fix misspellings -- even badly mangled names are recognised and corrected.

```
Before:  month = {April}
After:   month = {Apr.}
```

```
Before: month = {Augghh}
After:  month = {Aug.}
```

```
Before: month = {sept}
After:  month = {Sept.}
```

Fuzzy matching is tolerant enough to handle one or two incorrect characters but conservative enough not to confuse "June" with "July".

3. IEEE Journal and Booktitle Abbreviations

IEEE publications use standard abbreviations for common words in journal names, conference titles, and series names. For example, "International" becomes "Int.", "Transactions" becomes "Trans.", "Communications" becomes "Commun.", and so on. BibTeX Cleaner applies all ~90 abbreviations listed in the IEEE Editorial Style Manual to the journal, booktitle, and series fields of every entry.

```
Before: journal = {IEEE Transactions on Communications}
After:  journal = {IEEE Trans. Commun.}
```

```
Before: booktitle = {International Conference on Computer Vision}
After:  booktitle = {Proc. Int. Conf. Comput. Vis.}
```

Words not in the IEEE abbreviation list are left unchanged.

4. @inproceedings Booktitle Formatting

Conference entries (@inproceedings) receive additional structural cleaning on top of word-level abbreviation:

- Leading year removed -- "2016 IEEE Conference on ..." becomes "IEEE Conference on ..."
- Proc. prefix added -- "Conf." gets "Proc." prepended if not already present.
- Trailing organisation moved to front -- "..., IEEE" at the end becomes "IEEE ..." at the beginning.

```
Before: booktitle = {2016 IEEE Conference on Computer Communications, IEEE}
After:  booktitle = {Proc. IEEE Conf. Comput. Commun.}
```

5. @misc Access Date

Web references (@misc entries) should include a note stating when the resource was last accessed. BibTeX Cleaner checks every @misc entry:

- If the note field is missing entirely, a new line is inserted automatically: note = {Accessed on DD Mon. YYYY}, using today's date.
- If the note field exists but is empty, or contains an access date in a non-standard format, it is normalised to the correct form.
- If the note contains something other than an access date (e.g. "In press"), it is left completely untouched.

```
Before:   note = {Accessed April 2025}
After:   note = {Accessed on 18 Apr. 2025}
```

```
Before:   (note field missing)
After:   note = {Accessed on 18 Apr. 2025} [inserted]
```

6. Acronym and Mixed-Case Protection in Titles

LaTeX bibliography styles often force all title text to lowercase, which would incorrectly render acronyms like "IoT" as "iot" or "TCP" as "tcp". The standard BibTeX fix is to wrap such words in curly braces: {IoT}, {TCP}. BibTeX Cleaner detects and wraps these automatically in every title field.

Words are protected when they match any of the following criteria:

- Exact match in the built-in list of ~55 known technical terms: TCP, IP, UDP, HTTP, IEEE, ACM, IoT, AI, ML, CNN, GPU, LTE, 5G, WiFi, API, JSON, SQL, OAuth, and many more.
- CamelCase words -- any word containing a lowercase letter immediately followed by an uppercase letter (e.g. MacBook, eHealth, WiMax).
- Alphanumeric tokens -- words that mix letters and digits (e.g. 5G, 4K, IPv6, 3D).

```
Before:   title = {An IoT Framework for TCP Networks}
After:   title = {An {IoT} Framework for {TCP} Networks}
```

Ordinary English words are never touched, even if capitalised. Words already wrapped in braces are left as-is so existing protections are not doubled.

7. Mandatory Field Validation

BibTeX entries must contain certain fields to be valid and to render correctly in a bibliography. BibTeX Cleaner checks every entry against the required fields for its type and lists any that are missing in a warning panel above the diff view.

The required fields for each supported type are:

- @article -- title, author, journal, volume, number, pages, year, month
- @inproceedings -- title, author, booktitle, pages, year, month
- @misc -- title, note

Each warning is clickable: clicking it scrolls both panes to the affected entry and briefly highlights it in red so you can find and fix it immediately.

8. Accept or Reject Individual Changes

Not every automatic change may suit your specific citation style or document. For this reason, every changed line in the cleaned pane shows a small toolbar when you hover over it.

- Click [checkmark] Accept to keep the cleaned version (this is the default behaviour when you copy).

- Click [x] Reject to revert that single line to its original text. The line turns muted with a strikethrough so its status is clearly visible.
- Click the active button again to undo your decision and return the line to the default state.

When you click "Copy Cleaned", the tool respects all your decisions: accepted lines use the cleaned text, rejected lines use the original, and any inserted lines that you rejected are dropped entirely.

9. Privacy -- Your Data Stays With You

BibTeX Cleaner runs entirely inside your web browser using JavaScript. No file or text you provide is ever sent to a server, stored in a database, or logged in any way. The moment you close or refresh the page, all data is gone. This makes the tool safe to use with confidential or unpublished research.

Quick Reference -- What Gets Changed

Before	After	Rule
<code>pages = {5-10}</code>	<code>pages = {5--10}</code>	Page-range dash fix
<code>month = {April}</code>	<code>month = {Apr.}</code>	Month abbreviation
<code>month = {Augggh}</code>	<code>month = {Aug.}</code>	Month misspelling fix
<code>journal = {Int. J. of Commun.}</code>	<code>journal = {Int. J. Commun.}</code>	IEEE word abbreviation
<code>booktitle = {2022 IEEE Conf...}</code>	<code>booktitle = {Proc. IEEE Conf...}</code>	@inproceedings format
<code>note = {} (in @misc)</code>	<code>note = {Accessed on 18 Apr. 2025}</code>	@misc access date
<code>title = {An IoT Survey}</code>	<code>title = {An {IoT} Survey}</code>	Acronym protection

Questions or feedback? Reach us at mithun.mukherjee@outlook.com

Tool available free at: www.purplepeakmountain.com/app/bibtex-cleaner.html