

Smart Academic Assistant Chrome Extension

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Smart Academic
Assistant



Problem/Solution Overview

Problem:

Manual copying of titles, authors, abstracts, citations interrupts research flow

High risk of typos or format errors when switching between tabs

Solution:

Chrome extension that auto-extracts metadata from IEEE Xplore pages

Instantly generates APA & BibTeX citations with one click

Key Features & Architecture

Core Features:

- Metadata extraction: title, authors (clickable to IEEE profiles), journal, volume, issue, pages, year, DOI
- Clean popup UI with abstract (stripped of redundant prefixes)
- Dual citation formats (APA, BibTeX) + copy-to-clipboard buttons

Architecture:

- Content Script (content.js): Scrapes IEEE paper pages for metadata and paper information
- Popup Interface (popup.html & popup.js): Plain HTML/JavaScript implementation of the extension popup with citation formatting and copy functionality
- Messaging Layer: Chrome extension messaging API (`chrome.runtime.sendMessage`) for communication between content script and popup

Challenges & Technical Decisions

- **Team Communication Early Hurdles:**
 - Initial misalignment on feature ownership and event schemas
 - Resolved by defining clear responsibilities (metadata vs. citation logic) and ramping up Slack check-ins
- **APA format bug:** (n.d.) appeared until `<meta name="citation_...">` tags were used in `content.js`.
- **BibTeX key issue:** The citation key used `names[0]`, but the variable was undefined. Fixed by referencing `authors.map(a => a.name)`.
- **Popup stuck on "Loading...":** Caused by a mismatch between type: `'metadataExtracted'` in `content.js` and type: `'paperMetadata'` in `popup.js`. Fixed by unifying the type across scripts.
- **Fallback for missing authors:** Implemented a fallback, unknown author list if no metadata is found.

Reflections & Lessons Learned

- **Be honest about team dynamics**—unspoken issues waste time; direct feedback keeps progress smooth
 - Communication is a must: it is helpful to have multiple touchpoints (in person, iMessage, Slack)
 - Different communication methods work for different use cases
- Early integration of **unit tests** is important
- **AI** is a valuable ally but must be continuously evaluated for accuracy and edge cases
- Combining manual walkthroughs with automated tests gives high confidence

Landing Page: <https://aryabansal1.github.io/smart-academic-assistant/>



Smart Academic
Assistant

Smart Academic Assistant

Extract. Summarize. Cite. All in one click – without leaving your research tab.

Problem

Students and researchers waste valuable time copying and pasting abstracts and citations between browser tabs and AI tools. This workflow is slow, distracting, and repetitive. Our extension fixes that.

Solution

The Smart Academic Assistant Chrome extension extracts metadata from academic paper pages on IEEE Xplore, then presents AI-powered actions (summarize, cite, explain) in a clean popup.

Key Features

Demo Time!