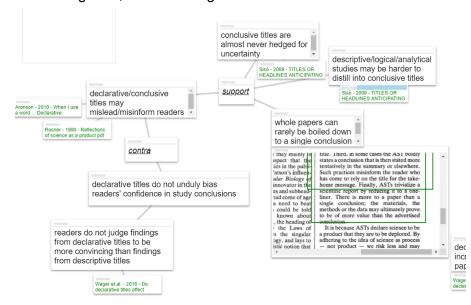
What is this tool for?

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- Science advances/functions on argumentation
- This tool is a way to "train" you to focus on the key claims that are being made, how they relate to each other, and how they are grounded (or not) in evidence
- You write claims grounded in one or more "pdf segments" from the papers, and can connect claims together, to make things like this:



- Screen cap video of Joel actually using this to do initial processing of 22 papers in 60 minutes (to make a map that includes the screenshot above)
- You can download the PDF database for that claim map <u>here</u> to play around with it.

Interested in learning more about the research behind this? Check out <u>this extended abstract</u> (and accompanying <u>short demo video</u>) and <u>this talk + discussion</u> at HCIL/BBL in Fall 2018.

Getting started

NOTE: Please contact Joel Chan (joelchan@umd.edu) or Xin Qian (xinq@umd.edu) if you run into any issues.

A quick tutorial

To get a quick start, below are links to two walkthrough videos for users of each platform.

Windows users

Walkthrough video: https://youtu.be/JTAbwXeSDVs

Mac users

Walkthrough video: https://www.youtube.com/watch?v=K7GfBj3Hk1M

Step 1: Download the app

Release v1.0 at the start of the semester (Ref: commit 3ba893, Sept 6)

Windows users

App: https://drive.google.com/drive/folders/1hSHrMFQNhutylycaaDaDexNMw9LkOzWt?usp=sharing

When you unzip it, the "app" will be a directory.

Mac users

App: https://drive.google.com/open?id=1IUJnMH13eGsmaNABeek_QqZwiPGt9y2g

(Bug-fixed version)

https://drive.google.com/open?id=1YYicv_hCe53sgjUDWKRH3vtugXA9DNHg

Linux users

Linux-unpacked package:

https://drive.google.com/open?id=122iP7X7dlgf1TKHtlWnPSUD0gyJQR5qX

Release v1.1 with search functionality (Ref: commit 9cd299, Sept 25)

A snippet of changes made



Windows users

App:

When you unzip it, the "app" will be a directory.

Mac users

App:

Linux users

Linux-unpacked package:

Step 2: Download a PDF database for your assigned readings

Knowledge Compressor operates on a database of PDFs (basically a folder with PDFs and some other .json files in it). We have preprocessed them for you.

You can **download the PDF database for your assigned week <u>here</u>** (look for your week, and download the one that has " - Claim Map" at the end, e.g., "Week 3 - Claim Map".

Step 3: Initialize the system

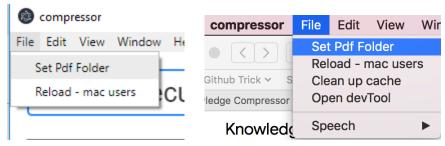
You'll need the app downloaded (from Step 1), and a database of PDFs (from Step 2) to load.

Then follow these steps

- 1. Unzip app folder
- 2. Open the app by double-clicking (right click and click "open" if you are on a mac) on "compressor" in the directory:



- a. You may be asked (esp. If you are on a newer mac) whether you trust us as "unidentified developers". If you do trust us, you can override the warning and run the app. If not, let us know what your concerns are!
- 3. Set PDF folder

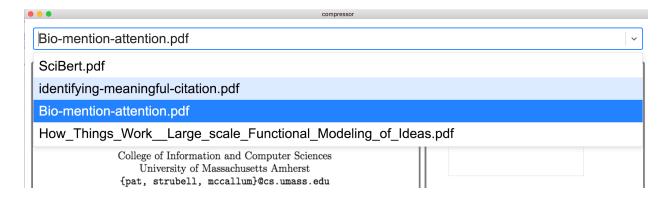


- a. Point it to the PDF folder you downloaded (the whole folder, not an individual paper folder within the overall directory)
 - i. Make sure the folder is unzipped and not inside your app directory (beyond this it doesn't really matter where you put it)

Step 4: Make a claim map

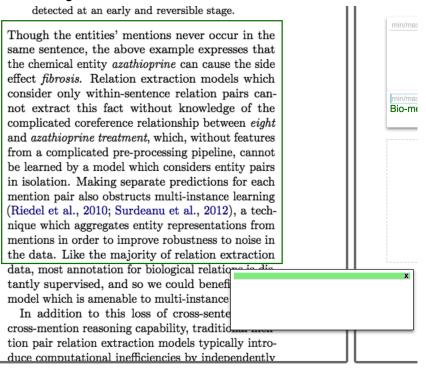
Switching between PDFs

To switch between PDFs, click and select from the dropdown menu on the top.



Making a "grounded claim"

Start from the left panel, **use the mouse to single click and drag** to create a live slices as the context segment, and write a "grounded claim" that is connected to it.



Selecting claim(s)

To select one claim, **click** on the header of that claim

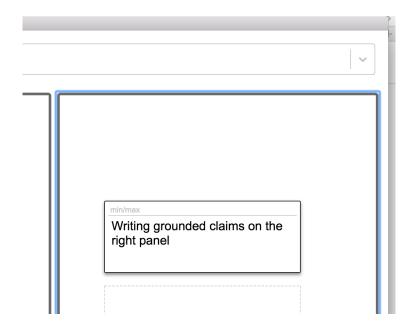
To select multiple claims, **hold the mouse to drag + select**

Attaching multiple live slices to a claim

Hold the mouse to drag+select a set of live slices, then right click the target claim to attach them together

Making a claim (temporarily un-grounded) on the map

Start from the right panel, **click any free space and drag** to create a blank "temporarily un-grounded" claim



Deleting stuff

To delete, select the claims that you want to delete.

Note that for mac users, hit **fn+ctrl+delete** and for windows users, hit ctrl+delete.

Adjusting context post-hoc

The mouse changes to adjustable cursor when hovering over the green boundary.

intervals if azathioprine therapy is continued so that structural liver damage may be detected at an early and reversible stage.

Though the entities' mentions never occur in the same sentence, the above example expresses that the chemical entity azathioprine can cause the side effect fibrosis. Relation extraction models which consider only within-sentence relation pairs cannot extract this fact without knowledge of the complicated coreference relationship between eight and azathioprine treatment, which, without features from a complicated pre-processing pipeline, cannot be learned by a model which considers entity pairs in its ation. Mag separate edictions for each mention pair also obstructs multi-instance learning (Riedel et al., 2010; Surdeanu et al., 2012), a technique which aggregates entity representations from

Connecting things on the map (1 to 1, many to 1)

Hold the mouse to drag+select a set of source claims/nodes, then right click the target claim/node to attach them together

Zooming and panning

For mac users, use the Trackpad to zoom in and out

Moving stuff around

Select the claim/node, and drag around

Rich text (inserting text with basic styles)

Knowledge Compressor supports rich text editing. To toggle the rich text editing toolbox, **right click** on the text



For mac users, **fn+ctrl+b** would bold the current selected text, **fn+ctrl+u** would underline the current selected text.

Step 5: Share your claim map

Find your PDF folder on your computer Zip it
Share with the class!

(Optional) Add new papers

You can add new papers at any time (e.g., recommended but not required readings, papers being referred to by a survey paper in the reading list, or other papers that strike your fancy).

To add the paper to the Knowledge Compressor's database, simply put the PDF in the top-level PDF directory (at the same level as your state.json file), and then click View > Reload (for Windows) or File > Reload - mac users (for Mac). Alternatively, close and reopen the app.

(Optional) Load another claim map

Same as initializing, except you just point the app to the PDF database directory that was shared with you. Useful for following along if the week's discussion is grounded in a claim map instead of / in addition to your reading response.