

# Guidelines for Argument Annotation in the context of Fake News Classification

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ATTENTION: The label should only be consulted when necessary but not taken as a truth.

The label helps in determining if it's partial support or partial attack, but **it doesn't help in determining if it's support or partial support.**

# 1. Introduction

Argument or Argumentation Mining (AM) is a research field that focuses on the automatic detection and classification of argumentative discourse units (ADU such as claims and premises) as well as the prediction of inter-ADU relations (mainly attack or support).

Due to the increasing amount of unstructured textual data in various domains such as legal, student essays and randomized controlled trial abstracts, AM has become an increasingly popular topic of research since 2010 [1]. More recently, ADU and annotation of inter-ADU relations have proven to be useful to fallacious argument classification in political debates [2], showing the great potential of AM to advance other research fields.

In the same spirit of [2] and in the context of the ATTENTION project whose main objective is to develop classification models and generative algorithms fighting against online disinformation, we aim to extend a corpus called LIAR-PLUS dataset [3] which is itself based on LIAR [4], a large dataset of validated news from the [POLITIFACT.com](https://politifact.com) website. The difference is that LIAR-PLUS comprises not only the **news text**, but also the **justification** from the fact-checking article used by humans to label a given piece of news.

The idea is to extend/augment LIAR-PLUS by annotating claims and premises as well as their relations in a text composed of **news and justification**. The whole process would become clearer in Sections 2 and 3. The guidelines comprise a

brief definition of argumentation in general, an overview of the LIAR-PLUS dataset and detailed instructions for the annotation of the argumentative components and relations per se, illustrated with examples. The annotation tool, [INCEpTION](#) along with the files needed to carry out the annotation, is presented at the end of this document.

## 1.1 Definition of an argument

The theory of argumentation goes a long way back to ancient Greek rhetoricians, logicians and philosophers, with the best-known of traditional work being that of Aristotle (*Rhetorics*). The guideline here is based on the definition proposed by [5]:

“Argumentation is a verbal, social, and rational activity aimed at convincing a reasonable critic of the acceptability of a standpoint by putting forward a constellation of propositions justifying or refuting the proposition expressed in the standpoint.”

Hence, an argument consists of multiple **propositions** related to a **claim** (also called **standpoint** or **conclusion**), which is the proposition that the argument seeks to establish. A **claim** can be **supported** or **attacked** by other propositions, called **premises**.

In Figure (1), **claim1** is supported by **premise2** and attacked by **premise1**.

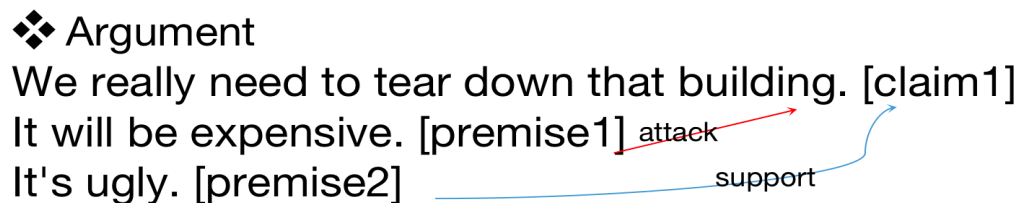


Figure (1)

To conclude, the essential task of argument annotation is to:

1. Segment the text into ADUs (claims and premises).

2. Identify the relations among ADUs (mainly attack/support, but also partial attack/partial support, see Section 3).

## 1.2 The LIAR-PLUS dataset

The LIAR-PLUS dataset [4] is derived from the LIAR dataset, published by [3] and composed of news from the fact-checking website POLITIFACT, the associated metadata for each piece of news (date, speaker of the news, etc.) and the verdict which is one of the 6 class labels:

**pants on fire, false, barely true, half true, mostly-true, and true.**

The LIAR dataset includes in total 12,836 human labeled short news from POLITIFACT.COM's, each news being evaluated by a POLITIFACT.COM editor for its truthfulness. It covers a wide range of contexts such as news releases, TV/radio interviews, campaign speeches, TV ads, tweets, debates and Facebook posts, as well as subjects such as economy, healthcare, taxes, federal-budget, education, etc.

An example of LIAR's data is illustrated in Figure (2):

|  |
|--|
| <p><b>Statement:</b> <i>"The last quarter, it was just announced, our gross domestic product was below zero. Who ever heard of this? Its never below zero."</i></p> <p><b>Speaker:</b> Donald Trump</p> <p><b>Context:</b> presidential announcement speech</p> <p><b>Label:</b> Pants on Fire</p> |
|--|

Figure (2)

For each evaluation by a POLITIFACT editor, there is also a justification text based on which the final evaluation is made. However these justification texts are not provided by [3] and existing works on this dataset used thus only the statement and metadata to train fake news classifiers, i.e. without considering the justifications.

Due to the aforementioned limitation, previous classifiers were mainly based on the semantic analysis of the news text alone (including hedging, sentiment, and emotion analysis), which is problematic because a piece of news should ideally to be related to a fact in order to be classified reliably as fake or not fake. In order to alleviate this problem and develop more powerful, interpretable algorithms, [4] extended the dataset by attaching to each news text a automatically scraped justification text from the fact-checking article, as illustrated by Figure (3):

**Statement:**“Says Rick Scott cut education to pay for even more tax breaks for big, powerful, well-connected corporations.”  
**Speaker:** Florida Democratic Party  
**Context:** TV Ad  
**Label:** half-true  
**Extracted Justification:** A TV ad by the Florida Democratic Party says Scott ”cut education to pay for even more tax breaks for big, powerful, well-connected corporations.” However, the ad exaggerates when it focuses attention on tax breaks for ”big, powerful, well-connected corporations.” Some such companies benefited, but so did many other types of businesses. And the question of whether the tax cuts and the education cuts had any causal relationship is murkier than the ad lets on.

Figure (3)

The LIAR-PLUS dataset comprises 12,793 items after cleaning some items of the LIAR dataset. It is important to note that **the justification text is automatically scraped** from the POLITIFACT website using the following rule:

1. Most POLITIFACT articles end with a “our ruling” or “summing up” section which provides the essential information used by the human checkers to

label each news, as illustrated below:

### Our ruling

An Instagram post claimed that Hamlin's collapse was caused by the COVID-19 vaccine.

The Bills said that Hamlin experienced a cardiac arrest following a hit on the field. Doctors are still investigating what might have led to Hamlin's loss of heart function. No one close to his case has suggested that COVID-19 vaccines are to blame; and Hamlin's vaccination status is not publicly known. A growing body of research shows the COVID-19 vaccines are safe and effective. In some cases, they have been linked to inflammation of the heart, but experts say the risk of heart inflammation is greater from COVID-19 infection than the vaccine.

Experts who have viewed the video said Hamlin's cardiac arrest was likely caused by commotio cordis, which is often seen among athletes who've taken hits to the chest, or potentially an underlying heart condition.

Figure 4

2. In case there is no such section, **the last five sentences** in the fact-checking article when no summary exists

This has important implications for our task since the justification text can be not sufficient to justify the label, or in the worst case, not understandable. In this case, extra annotation needs to be done: typically a label indicating whether the justification is sufficient or understandable (see Section 4.4).

## 1.3 Main tasks of annotation

The main task of the annotation is thus to:

1. Annotate claims and premises based on the News and the Justification text (**Statement** and **Extracted Justification** in Figure (3)).
2. Annotate relations between claims and premises: attack/support/partial attack/partial support.

A subsidiary task is to:

Improve the dataset by annotating the content quality.

## 2. Annotation of leaking claims, claims and premises

Rim: besides the classical argumentative components, we have also decided to create label “citation” to mark the reference to the original news text in the justification text.

### 2.1 Leaking claims

In the context of fake news identification, statements in the justification text such as “it’s fake” or “it’s barely true” are **leaking claims** because it will lead to data leaks. In other words, the label is directly given by a true/false verdict about the news. **One of the general criteria is that this kind of verdict can be applied to any news text in the corpus as it assesses directly the truth/false value of the news.**

In Example (A), the last sentence marked **in bold**, although clearly a claim, should not be annotated as a simple claim but **a leaking claim** because the statement leaks directly the label of the news.

By 12th grade, more than 3 out of 10 girls have been pregnant at least once.

So yes, three in 10 females in the U.S. become pregnant at least once by age 20. This means that while Welfare Watch got the statistic from the G-CAPP Web site wrong, it's correct that a significant percentage of U.S. teens become pregnant. **So while the statement is generally true, it was off-target on some important information.**

Example (A)

### 2.2 Claims

For the rest of the text, **Claims** would be marked in bold and surrounded by square brackets marked with a subscript.

In the context of fact-checking, a claim is a statement made by a speaker/organization, a standpoint to be defended/countered and a piece of

news to classify as true or false when it's contained in the news text. It can be somewhat general, as in Example (B):

> **[Texas is the state that has now gone the longest without electing a Democrat statewide]<sub>1</sub>.**

Example (B)

or rather specific as in Example (C):

> **[About 1 percent of all the gun sellers are responsible for more than half of the guns that are used in crimes]<sub>1</sub>.**

Example (C)

It is worth noting that following the format of LIAR-PLUS dataset, the text to be annotated is going to be composed of a piece of news and a justification. The piece of news contains mainly one (as Example (A,B)) or several claims. The news in Example (D) contains two claims, **Claim<sub>1</sub>** stating that “I took on the worst road system in the country” and **Claim<sub>2</sub>** “When I left, they said it was the most improved road system in the country.”

> **[I took on the worst road system in the country, according to Trucker's magazine]<sub>1</sub>. [When I left, they said it was the most improved road system in the country]<sub>2</sub>.**

Example (D)

## 2.3 Premises

In justification texts, it is quite common to find cited statistics/evidences supporting/attacking the claims stated in the same text and/or in the news text. Please note that a premise is **always** linked to a claim, that's why statements in the news text, although including also statistics like in Example (2), should be annotated as claims because they are not supporting/attacking any other component. Since premises are always linked to claims, these evidences, relatively verifiable, often imply a “true because” relation as illustrated by **Claim<sub>2</sub>** and Premise<sub>3</sub> in Example (E) or “not true because” as illustrated by **Claim<sub>1</sub>** and Premise<sub>1</sub> and Premise<sub>2</sub>.



From here on, Premises would be underlined, italicized and annotated with subscripted numbers for illustrative purposes.

**[I lost my health insurance and my doctor because of Obamacare]<sub>1</sub>.**

*[Principal Financial Group says it made a decision to get out of the insurance business, which made up 3 percent of its revenues -- a share growing ever smaller as other aspects grew]<sub>1</sub>. [What's more, the decision was under consideration for years before Obama and his health reform plan came along]<sub>2</sub>. [Ribble isn't losing his insurance, his ability to get insurance or even, to be technical about it, his doctor]<sub>2</sub>. [He and The Ribble Group have choices available -- including an insurance carrier run by his favored health care system]<sub>3</sub>.*

Example (E)

In Example (E), Premise<sub>1</sub> is a premise not only because it's more or less verifiable evidence, but also because it attacks **Claim<sub>1</sub>**.

Here are some more examples illustrating the difference between **Claims** and Premises.

As presented above, the text to be annotated is going to be composed of **a piece of news** which is the first paragraph of the text (**Claim<sub>1</sub>** in example (F)) and a justification (the rest of the text).

**[The economic turnaround started at the end of my term]<sub>1</sub>.**

Crist said that the economic "turnaround started at the end of my term." *[During Crist's last year in office, Florida's economy experienced notable gains in personal income and industrial production, and more marginal improvements in the unemployment rate and in payroll employment]<sub>1</sub>. [But GDP didn't grow again until Scott took office]<sub>2</sub>. Economists say [Crist deserves some credit for the economic turnaround]<sub>2</sub> because [he accepted federal stimulus dollars]<sub>3</sub>, but they add that [any state is inevitably buffeted by national and international trends far beyond their control]<sub>3</sub>.*

Example (F)

In Example (F), 3 claims and 3 premises are identified. 1 claim in the news (first paragraph) and 2 claims in the justification. All the premises are in the justification text. It's interesting to note that **Claim<sub>2</sub>** is considered as a claim because it's a personal standpoint, but in the same sentence there is a premise (Premise<sub>3</sub>), because although it's also part of what economists say, it's a verifiable evidence and it supports **Claim<sub>2</sub>**. However, the **Claim<sub>3</sub>** is a claim because again it's more a standpoint than a piece of verifiable evidence.

\* Multiple things are worth noting:

1. The final punctuation (typically the period) is not included in the annotation, like in **Claim<sub>1</sub>**.
2. The sentence *Crist said that the economic "turnaround started at the end of my term"* is **not** a claim because it's not the statement of the justification text but rather a citation that doesn't represent the fact checker's opinion.
3. Citation markers such as "Economists say" and "they add that" should not be included in the annotation.
- A particular point should be made about Premise<sub>1</sub> which contains two pieces of evidence:
  1. During Crist's last year in office, Florida's economy experienced notable gains in personal income and industrial production
  2. and more marginal improvements in the unemployment rate and in payroll employment

The ideal way is to annotate this sentence into two Premises. However, this is not possible due to the syntactic structure of the sentence. Such inseparable conjunctions should be annotated as one premise. The combination of these two pieces of evidence implies actually a partial support relation as it recognizes partially Crist's contribution to the economic turnaround.

\* In Example (F), it can also be seen that contextual information should be included in the annotation, such as Premise<sub>1</sub> beginning with "During Crist's last

year in office". In Example (G), **Claim<sub>1</sub>** includes "According to state Treasury documents" and Premise<sub>1</sub> includes "when Christie took office".

**[According to state Treasury documents, Christie is accurate]<sub>1</sub>. [The proposed budget is \$32. 146 billion -- about \$5 million less than the \$32. 151 billion spending plan in place when Christie took office]<sub>1</sub>.**

Example (G)

\* Semantic discourse markers enriching the sentence such as contrastive or concessive markers ("however", "By contrast, ", "But" as in Premise<sub>1</sub> in Example (H), "yet" as in Premise<sub>3</sub> of Example (J), etc.) should also be included in the annotation.

False

**[Iran "might not be a superpower, but the threat the government of Iran poses is anything but 'tiny,'" as Obama says]<sub>1</sub>.**

One could argue whether it's wise to meet with leaders of rogue nations. One could also debate whether Obama wrongly downplayed the threat posed by Iran. [But Obama never said the threat from Iran was "tiny" or "insignificant," only that the threat was tiny in comparison to the threat once posed by the Soviet Union]<sub>1</sub>.

In fact, [Obama has repeatedly called Iran a grave threat]<sub>2</sub>.

Example (H)

\* However, conversation connectors such as "In fact", "It is true that" and "because", "it's clear that", "indeed" should not be included since they fulfill merely some discursive functions without adding further semantic information.

As Premise<sub>1</sub> in Example (I)

In fact, [from 2004 through 2015, according to the U.S. Government Accountability Office, individuals on the terrorist watchlist were involved in firearm or explosives background checks 2,477 times]<sub>1</sub>....

Example (I)

and *Premise<sub>2</sub>* in Example (J), please also note that “it is true” is included in *Premise<sub>3</sub>* because it’s preceded by the logical connector yet.

**[Hillary Clinton supported NAFTA and permanent China trade]<sub>1</sub>.  
[Pennsylvania lost thousands of jobs]<sub>2</sub>.**

*[Another study by EPI concluded Pennsylvania lost another 44,173 jobs between 1993 and 2004 due to NAFTA]<sub>1</sub>. But while the Obama campaign mailer tries to make it seem as though the two Democratic candidates are far apart on trade issues, in substance they are not. It is true that [Clinton has in the past verbally supported NAFTA and permanent trade with China]<sub>2</sub>. [Yet it is also true that she has spoken forcefully about the need to reform NAFTA and to much more stringently enforce trade agreements with China]<sub>3</sub>.*

Example (J)

\* Sometimes, the news text begins with “X says...”. Since what we are annotating are claims, “says” should not be included in the annotation, as **Claim<sub>1</sub>** in Example (K):

Scott Walker says **[Mary Burkes Madison school district will be the only school district left in the state to ignore the (Act 10) law in the 2015-16 school year]<sub>1</sub>.**

Example (K)

\* However, there is another type of citation in which case the speaker of the news is making a statement about someone else’s opinion. In this case, the “X says” type phrase is part of the statement and must be included in the claim. In Example (L), “as Obama says” is part of the claim because it is reported by someone else and can be thus true or false. And indeed, **Claim<sub>1</sub>** is judged as False because Obama never describes Iran’s threat as tiny.

**[Iran "might not be a superpower, but the threat the government of Iran poses is anything but 'tiny,'" as Obama says]<sub>1</sub>.**

One could argue whether it's wise to meet with leaders of rogue nations. One could also debate whether Obama wrongly downplayed the threat posed by Iran. [But Obama never said the threat from Iran was "tiny" or "insignificant," only that

the threat was tiny in comparison to the threat once posed by the Soviet Union<sub>1</sub>.

In fact, [Obama has repeatedly called Iran a grave threat]<sub>2</sub>.

Example (L)

Some news contains rhetorical discourse, often to emphasize the intensity of a phenomenon. This kind of discourse should not be included in the claim, as “There are so many loopholes” in Example (M):

There are so many loopholes ... **[our businesses pay effectively one of the lowest tax rates in the world]**<sub>1</sub>.

A debate in Oxford, Miss. McCain’s repeated citation of statutory corporate tax rates is misleading because it does not take into account various deductions to which businesses are entitled. But we also think Obama’s assertion that these deductions result in the United States having one of the lowest corporate tax rates in the world similarly oversimplifies things. It’s true for some business, particularly ones that can write off a lot of debt payments. But it’s not true for others.

Example (M)

It’s also important to note that sometimes a premise can span several sentences as Premise<sub>1</sub> in Example (N), for the inconsistency of the pattern is only supported when the 3 pieces of information are considered together. To be more precise, Premise<sub>1</sub> supports **Claim**<sub>2</sub> and attacks **Claim**<sub>1</sub>.

**[John McCain has "a consistent pattern of ducking important environmental votes."]<sub>1</sub>**

Indeed, [McCain did miss 15 important environmental votes in 2007, while running for president. He also missed five environmental votes scored by the League in 1999, during his prior bid for the White House. But those years excepted, McCain has missed only three of 212 votes scored by the League since McCain's first year in the Senate, 1987]<sub>1</sub>. **[That's not a consistent pattern]**<sub>2</sub>.

Example (N)

## 2.4 Precautions

It should be noted that **only statements related to the news text should be annotated**, as we are only interested in these specific statements which are useful to determine the truthfulness of the news. This can be illustrated by Example (O), where “But while the Obama campaign mailer tries to make it seem as though the two Democratic candidates are far apart on trade issues, in substance they are not.” is not annotated as a claim because it’s not relevant to the news text.

**[Hillary Clinton supported NAFTA and permanent China trade]<sub>1</sub>.**  
**[Pennsylvania lost thousands of jobs]<sub>2</sub>.**

*[Another study by EPI concluded Pennsylvania lost another 44,173 jobs between 1993 and 2004 due to NAFTA]<sub>1</sub>.* But while the Obama campaign mailer tries to make it seem as though the two Democratic candidates are far apart on trade issues, in substance they are not. It is true that *[Clinton has in the past verbally supported NAFTA and permanent trade with China]<sub>1</sub>.* *[Yet it is also true that she has spoken forcefully about the need to reform NAFTA and to much more stringently enforce trade agreements with China]<sub>2</sub>.*

Example (O)

## 3. Annotation of Argumentative Relations

As the next step towards modeling the arguments in the data, it is crucial to annotate the argumentative relations.

- Relations are connecting argumentative components to form the graph representing the structure of an argument. The relation is a directed link from an outgoing node, source, to a target node.
- The main types of the relation are **attack or support**, meaning that the source component is justifying or undermining the target component. Links can occur only between certain combinations of components: **Premises can be connected to either a claim or another premise, whereas claims can only point to other claims.**

- There are more subtle relations such as **partial attack** and **partial support**, this will become more clear with examples.
- The number of outgoing links from an ADU may exceed one.

### 3.1 Attack

A component attacks another one when it contradicts the proposition of the target component, as illustrated by **Claim<sub>2</sub>**, **Claim<sub>3</sub>** and **Claim<sub>4</sub>** attacking **Claim<sub>1</sub>** in Example (P).

Here semantically one can argue that Premise<sub>1</sub> is also attacking **Claim<sub>1</sub>**, however we won't annotate it as attacking because the intention of the justification is clearly to support **Claim<sub>3</sub> with an emphasis on "misleading"**, the **Claim<sub>1</sub>** is attacked sequentially but it's not the intention of the justification text. This example is to be compared with Example (Q) in which the Premise<sub>2</sub> and **Claim<sub>1</sub>** meant exactly the same thing so they are both attacked by Premise<sub>3</sub>.

False

**[Hillary Clinton believed NAFTA was a 'boon' to our economy]<sub>1</sub>.**

But now that it's become an issue in the campaign, Newsday says **[it is not fair to attribute the word to Clinton]<sub>2</sub>. [Obama's use of the citation in this way does strike us as misleading]<sub>3</sub>,** Janison wrote. ["The quote marks make it look as if Hillary said 'boon,' not us]<sub>1</sub>. [It's an example of the kind of slim reeds campaigns use to try to win an office]<sub>4</sub>."

Example (P)

### 3.2 Partial attack

Contrary to a full attack, the partial attack is used when a component is not in full contradiction with another one, but weakening the target component by constraining or restricting its validity, as illustrated by Example (Q) where Premise<sub>3</sub> partially attacks **Claim<sub>1</sub>** as well as Premise<sub>2</sub> because the fact that Hilary Clinton advocates the reform of NAFTA doesn't fully contradict with her support for the same policy.

Half-true

**[Hillary Clinton supported NAFTA and permanent China trade]<sub>1</sub>.  
[Pennsylvania lost thousands of jobs]<sub>2</sub>.**

*[Another study by EPI concluded Pennsylvania lost another 44,173 jobs between 1993 and 2004 due to NAFTA]<sub>1</sub>. But while the Obama campaign mailer tries to make it seem as though the two Democratic candidates are far apart on trade issues, in substance they are not. It is true that [Clinton has in the past verbally supported NAFTA and permanent trade with China]<sub>2</sub>. [Yet it is also true that she has spoken forcefully about the need to reform NAFTA and to much more stringently enforce trade agreements with China]<sub>3</sub>.*

Example (Q)

This kind of partial attack relation is very important, as this news is classified as half-true by the human editor.

### 3.3 Support and partial support

Just as the difference between attack and partial attack, the support and partial support differs by the extent to which a component supports another.

Example (R) shows an example of full support where Premise<sub>2</sub> supports Premises<sub>1</sub> as there is no ambiguity or constraint.

It's also interesting to note that **Claim<sub>2</sub>** is a leaking claim and Premise<sub>1</sub> is a premise rather than a claim because it supports **Claim<sub>1</sub>**.

Barely-true

**[I can't sign money]<sub>1</sub>. [That's illegal]<sub>1</sub>.**

And so **[we find that although Clinton's statement has a germ of truth]<sub>2</sub>**  
because [defacing dollars is illegal]<sub>2</sub>, [she is wrong about an innocent autograph]<sub>3</sub>. [She could have signed that buck without fear of prosecution]<sub>3</sub>.

Example (R)



Attention, Premise<sub>1</sub> in the following Example **actually fully supports Claim<sub>1</sub>** after the discussion from the previous meeting.

Example (S) shows an example of partial support, where Premise<sub>1</sub> supports **Claim<sub>1</sub>** during the first half of the sentence (experienced notable gains) and weakens this support during the second half (more marginal improvements in...). One can argue that it can also be considered as a partial attack and it's true that the difference of partial attack and partial support is quite subtle. There are two ways of determining whether is a partial attack or partial support.

Firstly, the central idea of the justification text, if we look at the justification text as a whole, it is easy to deduce that the main position is positive about Crist's contribution

In case the central position of the justification is less clear, the truthfulness label is also provided. In this case the label is half true instead of barely true or false. So it's clearly a partial support relation.

Half True

**[The economic turnaround started at the end of my term]<sub>1</sub>.**

Crist said that the economic "turnaround started at the end of my term." [During Crists last year in office, Florida's economy experienced notable gains in personal income and industrial production, and more marginal improvements in the unemployment rate and in payroll employment]<sub>1</sub>. [But GDP didn't grow again until Scott took office]<sub>2</sub>. Economists say **[Crist deserves some credit for the economic turnaround]<sub>2</sub>** because [he accepted federal stimulus dollars]<sub>3</sub>, but they add that **[any state is inevitably buffeted by national and international trends far beyond their control]<sub>3</sub>**.

Example (S)

### 3.4 Final remarks

Please bear in mind that whether the relation is attack, partial attack, support or partial support, **the relations must be annotated for the whole text** including news and justification. In Example (S), the full set of relations should be:

1. Premise<sub>1</sub> supports **Claim<sub>1</sub>**.
2. Premise<sub>2</sub> partially attacks **Claim<sub>1</sub>** and Premise<sub>1</sub>.
3. **Claim<sub>2</sub>** partially supports **Claim<sub>1</sub>**.
4. Premise<sub>3</sub> supports **Claim<sub>2</sub>**.
5. **Claim<sub>3</sub>** attacks **Claim<sub>2</sub>**.

Bear in mind that premises can be connected to either a claim (Premise<sub>1</sub> and Claim<sub>1</sub>) or another premise (Premise<sub>2</sub> and Premise<sub>1</sub>), whereas claims can only point to other claims.

Also, we can not stress it enough, but sentences/phrases directly commenting the truthfulness of the news should NOT be annotated as claim or premise but a **leaking claim**, just as “Clinton's statement has a germ of truth” in Example (25) which leads to data leak in the sense that it leaks the label of the news. Similar words include the labels’ names such as “barely true” or wording like “it’s fake” or “it’s true”/“it’s a truth”.

And finally, only annotate statements relevant to the news text. For a reminder, re-read Section 2.

## 4. Annotation tool

The annotation would be carried out by using the software Inception. Most operations described below are demonstrated on [this demo](#).

The documentation of Inception can be found [here](#) if needed.

### 4.1 Installation

Download Inception [here](#) (INCEpTION 26.3 (executable JAR)).

In order to run Inception, you need to have Java installed in version 11 or higher. If you do not have Java installed yet, please install the latest Java version e.g. from [AdoptOpenJDK](#).

Once you have JDK installed, double-click the executable JAR to launch Inception via your Browser.

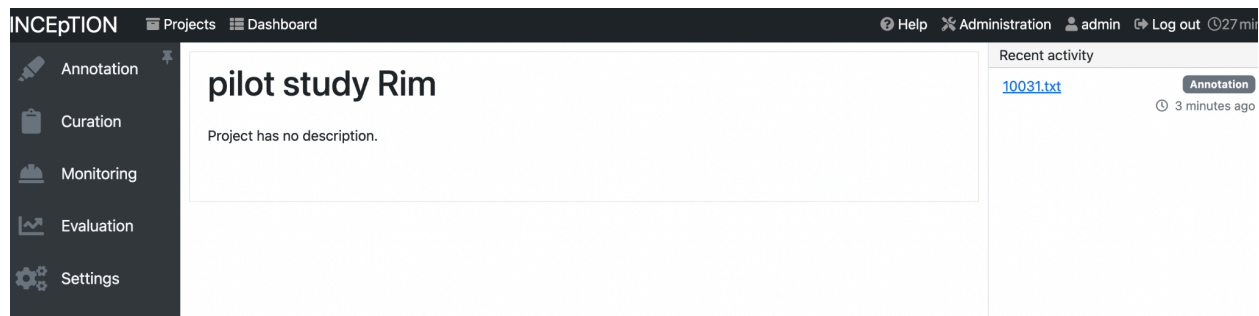
Be patient, it can take some time, even a lot of time 😊

To log in, use admin as username and password.

## 4.2 Import the annotation project

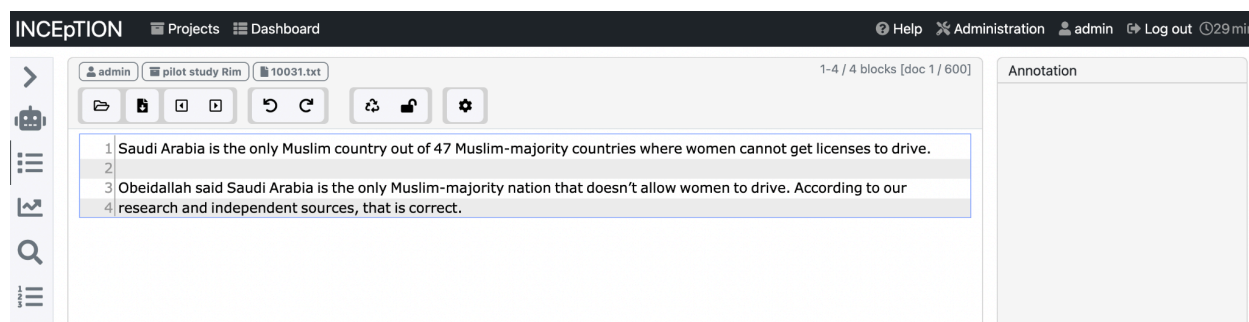
Download the zip file of the project file. Once you have logged into Inception, Click on Import Project and select the zip file (pilot-study-rim....zip) that you downloaded.

Once you import the project, you will directly enter the project interface looking like the following screenshot.



## 4.3 Argument annotation

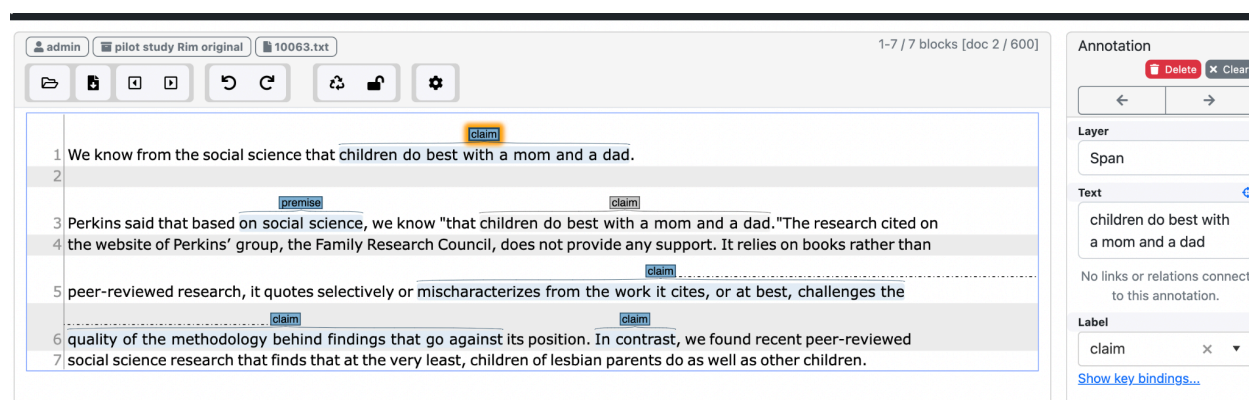
Click on Annotation and select the first file to start annotating. The annotation process is rather straightforward.



### 4.3.1 Components annotation

First select a span of text to annotate as claim, premise or leaking claim. For this purpose, use shortcuts or select the label at the bottom of the right sidebar.

After you have selected the span of text, press 1 to annotate as claim and 2 to annotate as premise. 5 to annotate as leaking claim (3 and 4 are for relations, see below).



If you want to delete or modify the label, click on a specific claim/premise, then on the right you have all the buttons for these operations.

Don't panic if the label doesn't disappear when you delete it or spurious labels appear from nowhere, these are highlighted by Inception for facilitating the annotation of similar items/words and **as long as they are gray**, they would not be saved to the file.

### 4.3.2 Relation annotation

To annotate the relations, first select the source label, then drag the mouse to the target label.

Then press the key 3 for attack and the key 4 for support.

Shift 3 for partial attack (pattack) and Shift 4 for partial support (psupport).

Of course, you can also select the relation at the bottom of the right sidebar.

The image shows a sidebar for annotations. At the top, under the heading "Annotation", there are three buttons: a red "Delete" button with a trash icon, a grey "Reverse" button with a double-headed arrow icon, and a grey "Clear" button with an "x" icon. Below these are two large buttons with left and right arrow icons. The sidebar is divided into sections: "Layer" with a "Relation" input field; "From" with a "minimum" input field and a blue icon; "To" with a "workers" input field and a blue icon; and "Label" with a dropdown menu showing "attack" and a blue icon. At the bottom, there is a link "Show key bindings..." in blue text.

## 4.4 Content quality

3 cases require extra annotations:

1. Not Understandable: you don't understand the justification text.
2. Insufficient: the justification is insufficient to justify the label, whether it's complete or not.

### 3. Bad News Text

#### 4.4.1 Not Understandable

In case you don't understand the news or the justification text, label it as Not Understandable. Don't feel ashamed, it is normal because understanding a piece of news often requires some specific knowledge that is not always readily available.

#### 4.4.2 Insufficient

Incomplete justification texts can be scraped when there is no "our ruling" or "summing up" section in the original POLITIFACT article as explained in Section 1.2, in this case only the last 5 sentences would be collected and sometimes the text is truncated.

Here is an example where the justification text is truncated at "America's No." and is thus incomplete:

True

**[Tommy Thompson created the first school choice program in the nation, giving thousands of Milwaukee students the choice of where they go to school no matter where they live or how much money their parents make].**

The program allowed low-income families to use state funds to send their children, at no cost to them, to the public or private school of their choice. David Boaz, executive vice president of the Cato Institution, gives Thompson and a Milwaukee state legislator, Polly Williams, "most of the credit" for creating school choice." The (Milwaukee) school choice reform was pivotal in putting choice on the national agenda." In an editorial praising Thompson as "America's No.

Please note that **whether a justification is complete or not, it's always possible that it doesn't really justify the label**, for the human fact-checkers use the full text and not only a single section, let alone the last 5 sentences to attribute the label to a piece of news. So it's important to annotate if the justification is sufficient to justify the label. In the previous example, although the

justification is not complete, it provides enough information for the news to be annotated as true.

When no label is provided, the justification is considered as sufficient.

#### 4.4.3 Bad News Text

Some news are scraped using the wrong API and thus not labelable. In the following example, the news text is “on abortion rights” so not classifiable as true or false, still this item gets a half-true label. This kind of cases should be labeled as bad news text.

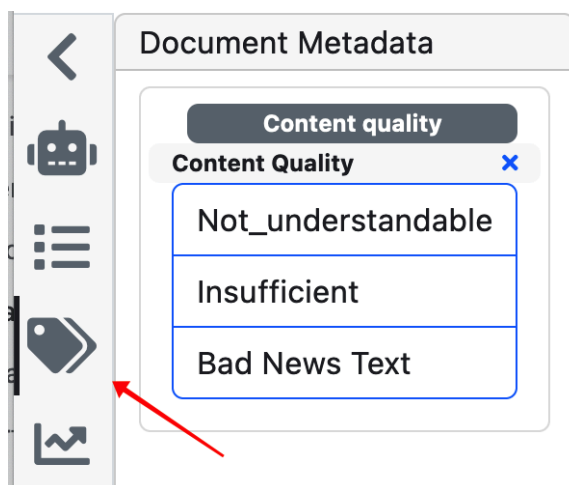
Half-true

On abortion rights.

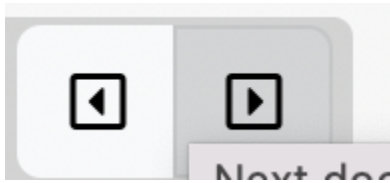
Obama said his JV comment "wasn't specifically referring to ISIL." He was not specifically asked about Islamic State, but it's pretty clear this is the group that was being referenced in the conversation. The transcript backs this up, as do news events from the time of the discussion.

Example (14)

To annotate, click the tagset icon (pointed out by the red arrow) and select a label.



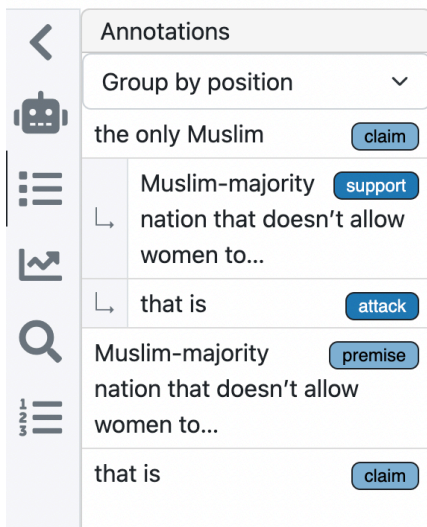
## 4.5 Most useful buttons or operations




Buttons for navigating between files



Buttons for undoing/redoing operations



The  on the left sidebar is extremely useful for reviewing annotations.



Click on  to adjust the visual aspects of the annotation interface.

## 4.6 Export the annotation

Once you have finished the annotation, go to Dashboard -> Settings, and at the bottom of the left sidebar, select Export. It's ok if you don't choose the secondary format.



## 5. Difficulties and reconciliation

Cf. this [doc](#) for details.

False

**[All four on Mount Rushmore, they were all independents at one critical point in their career.]<sub>1</sub>**

Pressler, an independent, said, "All four on Mount Rushmore, they were independents at one point in their career. "It would be an effective campaign pitch, particularly in the home state of the iconic monument, but alas, it's rubble. [Of the four, Washington is probably the one with the most independent bona fides]<sub>1</sub>. [You can perhaps make the case Jefferson was an independent "at one point" very early when parties were less common]<sub>2</sub>, [but he went on to prominently serve as a Democratic-Republican — a party he helped found — as both vice president and president]<sub>3</sub>. **[However, there is no gray area when it comes to Lincoln and Roosevelt]<sub>2</sub>. [Both switched parties, but were always affiliated with one and spoke of their importance]<sub>4</sub>. [They never ran nor served as independents]<sub>5</sub>.**

The difficulty lies in Premise<sub>2</sub>. We annotated it as Partial attack, because in claim<sub>1</sub>, two points were made: first, that all four were independent and second, that it was during a critical point in their lives. In the premise, they talk about Jefferson being independent **but it wasn't during a "critical point in his career"**. Since we have one of the two points of the claim true, we know it's a partial.

To determine if it's a partial attack rather than a partial support:

- We first looked at the linguistic cues: The use of "perhaps" gave us an indication that the speaker doesn't approve of what was said and the use of quotation marks with "at one point" as well.
- We then looked at the general idea of the whole argument along with the label to follow the reasoning of the fact-checker. It is clear that the main idea of the checker is to counter the news, which supports the partial attack relation annotation.

Insufficient but completable

Bush said that during his eight years in office, "we created 1.3 million net new jobs, more jobs created than Texas."

He got his numbers right, but it's worth noting that no governor is solely, or even mostly, responsible for economic growth in their state -- and if he wants to take credit for the expansion on his watch, then he also needs to shoulder some of the blame for the bust that followed his departure from office.

The statement is accurate but needs clarification or additional information, so we rate it Mostly True.

### 5.5 Sufficient but incomplete

As we mentioned, sometimes no ruling/summary section is found on the webpages, still the justification text is sufficient to label the news statement as in 31 where the sentence is cut at No., the original text being "In an editorial praising Thompson as "America's No. 1 public-policy tinkerer".

The program allowed low income families to use state funds to send their children, at no cost to them, to the public or private school of their choice. David Boaz, executive vice president of the Cato Institution, gives Thompson and a Milwaukee state legislator, Polly Williams, "most of the credit" for creating school choice." The (Milwaukee) school choice reform was pivotal in putting choice on the national agenda." In an editorial praising Thompson as "America's No.

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