When the GUI is launched, on the left side appears a sidebar, where settings are displayed. In the center, the text or texts are displayed, based on the filters of the sidebar, along with their named entity tags, if any.
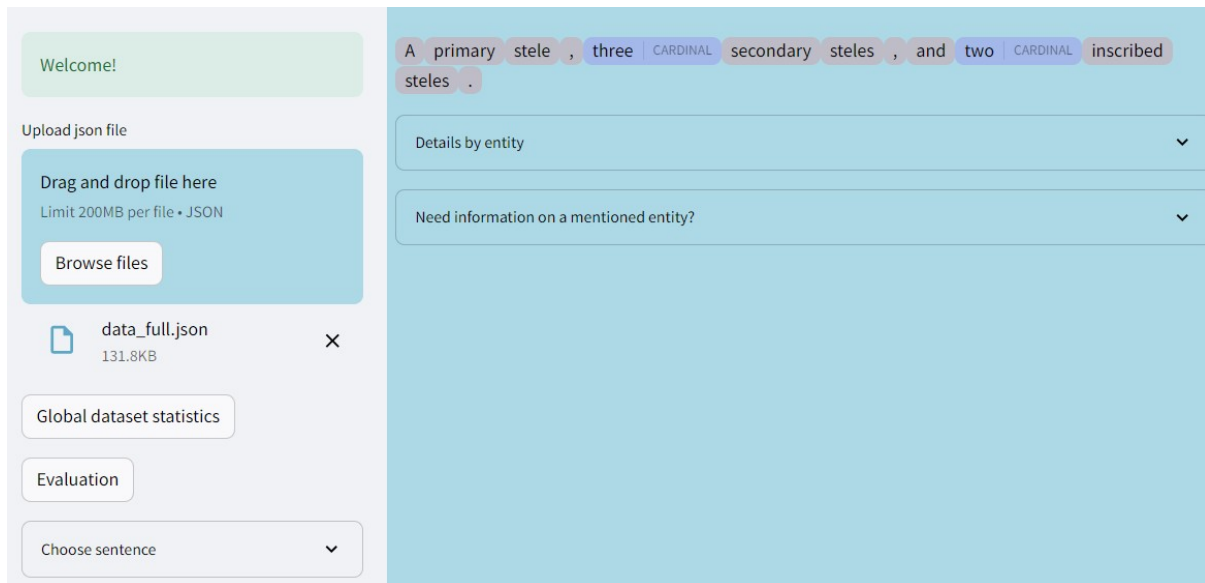

Figure 1: GUI overview.

The GUI takes its input as a JSON file, which contains the results of the models' execution, i.e., the entities identified in the given text and optionally, evaluation metrics. The user can click on "*Browse files*" to specify the path to this JSON file.

Once the JSON file is loaded, users can view dataset statistics and evaluation of results, if ground truth is provided along with the input text. In particular, the GUI includes two buttons (Figure 2):

- **Dataset statistics:** By clicking on this button in the GUI, users can display the number of entities identified by each model and in total, by category (LOC, ORG etc.).

	Unique entities identified by spaCy + RoBERTa	Unique entities identified by spaCy	Unique entities identified by Flair	Unique entities identified by Stanza
PERSON	13	13	15	14
NORP	5	5	0	5
FAC	11	11	0	10
ORG	15	21	17	15
GPE	46	42	0	45
LOC	4	4	61	5
PRODUCT	0	0	0	0
DATE	10	13	0	13
TIME	8	12	0	8
PERCENT	0	0	0	0
MONEY	0	0	0	0

Figure 2: Entity extraction statistics.

- **Evaluation:** This button is enabled only when ground truth is given. It reports precision, recall and F1 scores, by model and by category, based on the given ground truth (Figure 3).

Precision score

	spaCy + RoBERTa	spaCy	Flair	Stanza
PERSON	100.00%	90.48%	91.30%	95.45%
NORP	85.19%	85.19%	0.00%	100.00%
FAC	89.47%	70.00%	0.00%	94.44%
ORG	92.86%	68.57%	11.76%	93.10%
GPE	98.25%	90.20%	0.00%	100.00%
LOC	100.00%	90.91%	10.53%	100.00%
PRODUCT	-	-	-	-
DATE	100.00%	73.33%	0.00%	100.00%
TIME	50.00%	50.00%	0.00%	87.50%
PERCENT	-	-	-	-
MONEY	-	-	-	-

Figure 3: Evaluation of results.

Furthermore, the user can get insights about the various entities extracted from the text. For instance, the user can display one or more sentences from the input text chosen (Figure 4):

- by index (i.e., index of the sentence in the text),
- by filter (i.e., display sentences that only contain tags of the specified category) or
- by keyword (display sentences that contain this keyword or key phrase).
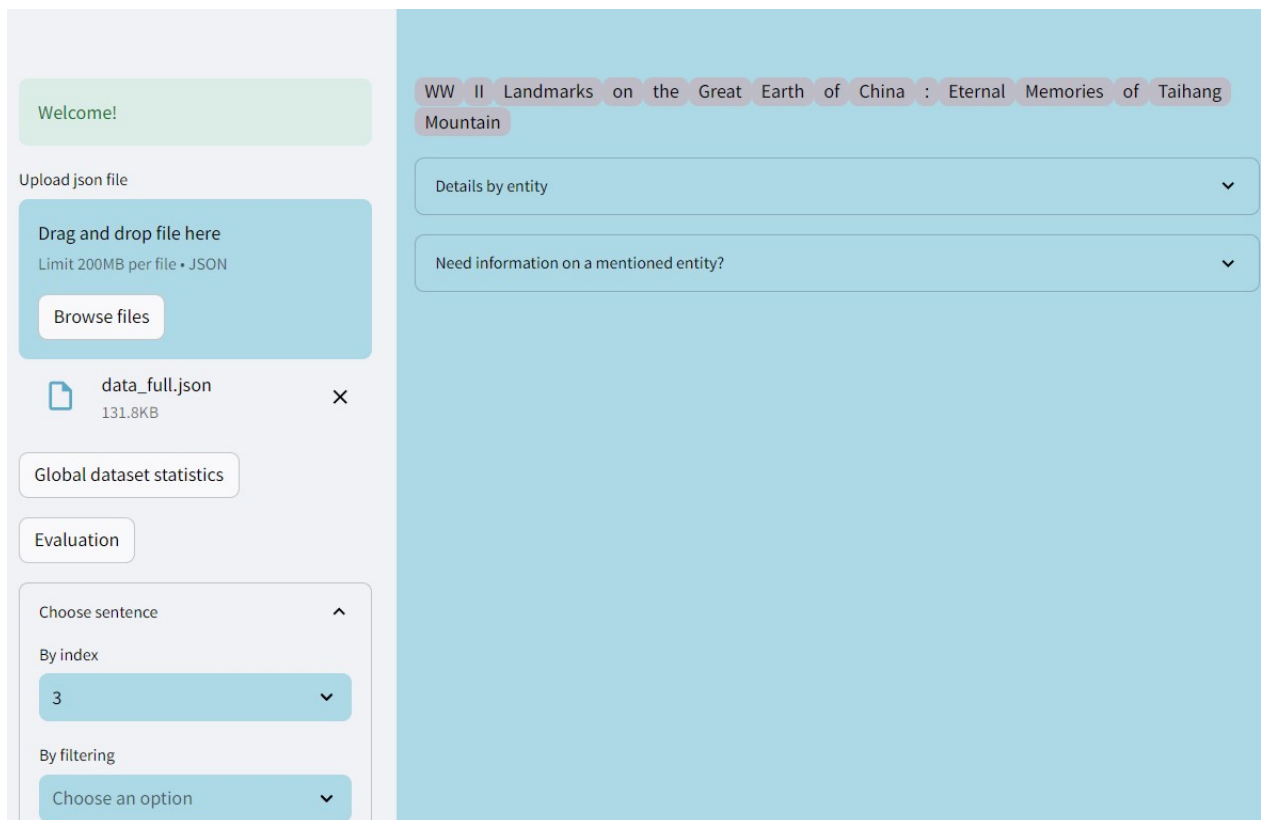

Figure 4: Display a sentence from the text by index.

The annotations in the chosen sentence(s) are visualized, by entity type and extraction tool (Figure 5):

- **Entity type:** From the sidebar, the user can choose which specific entity type to view (PERSON, ORG etc.), all types (ALL), or even a combination of types (e.g., PERSON and ORG). The sentence displayed will then have only tokens of the specified tag(s) highlighted.
- **Tool for extraction**: The user can choose one or more models from among those available. Option *'All'* can be used to get a combination of labels generated by all models. Then, the sentence displayed will have tokens highlighted as the specified tool(s) predicted.

Figure 5: Annotate text with its named entity labels.

Finally, for the chosen sentence, the user can get additional features (Figure 6):

- *"Details by entity"*: By choosing this option, a table containing entities as identified by each tool is shown. For each entity, its label as predicted by each tool is highlighted. Each entity can be of course differently labelled by each tool or be labelled only by some tools.
- *"Need information on a mentioned entity?"*: A Wikipedia link is displayed for the entity of choice, as well as a small summary about it.

Figure 6: Additional information on a named entity.