Thresh A Unified, Customizable and Deployable Platform for Fine-Grained Text Evaluation

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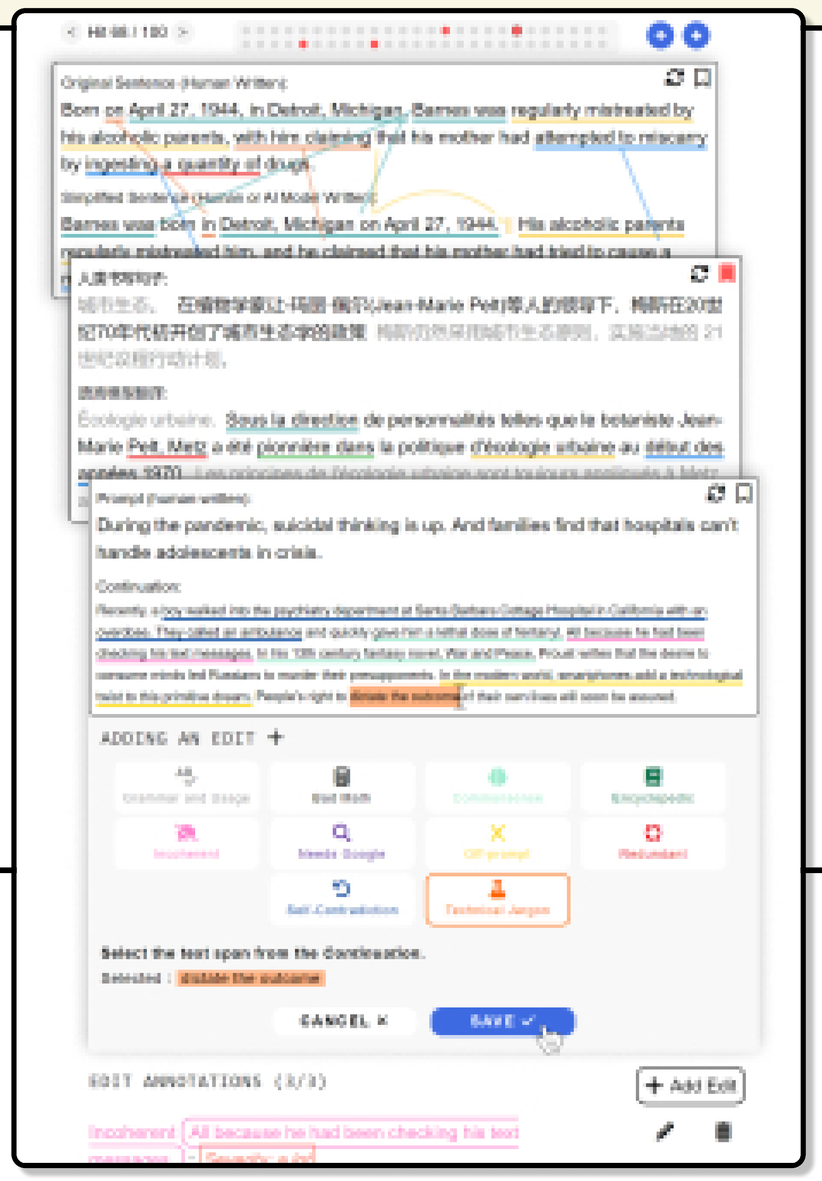
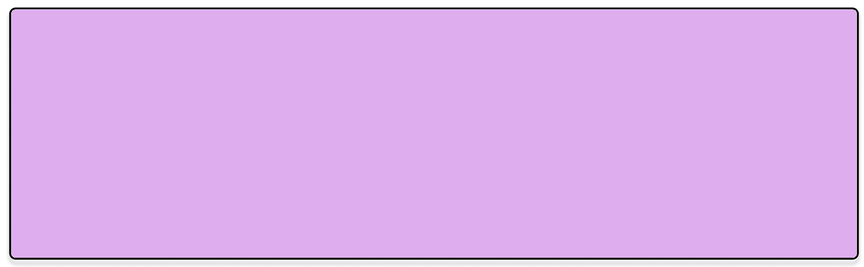
Build now at: **thresh.tools**



① **Unified** *Text Span Selection & Annotation*

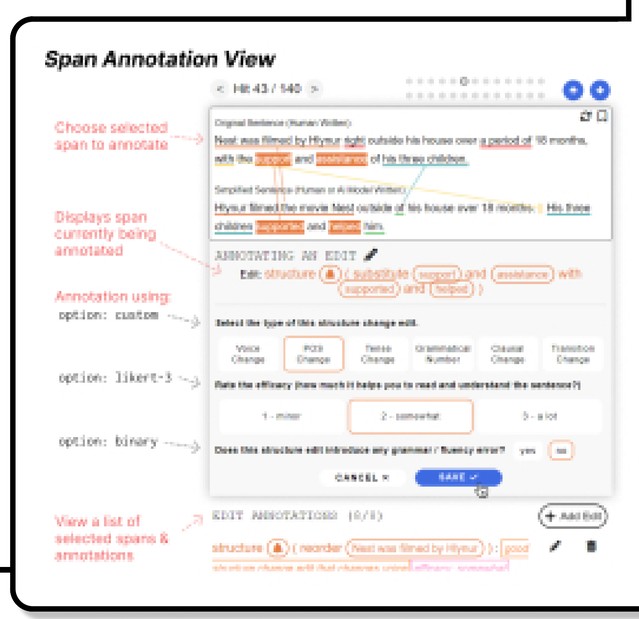
- Fine-grained Evaluation — Text-to-text or open-ended evaluation consisting of **span selection** and **span annotation**.
- First tool built specifically for text generation evaluation, with tools tailored towards NLP tasks. Actively updated with new features + interfaces
- Build an interface **in-browser** and share with a .**YAML** file
- Open-source and portable to integrate with existing annotation management tools

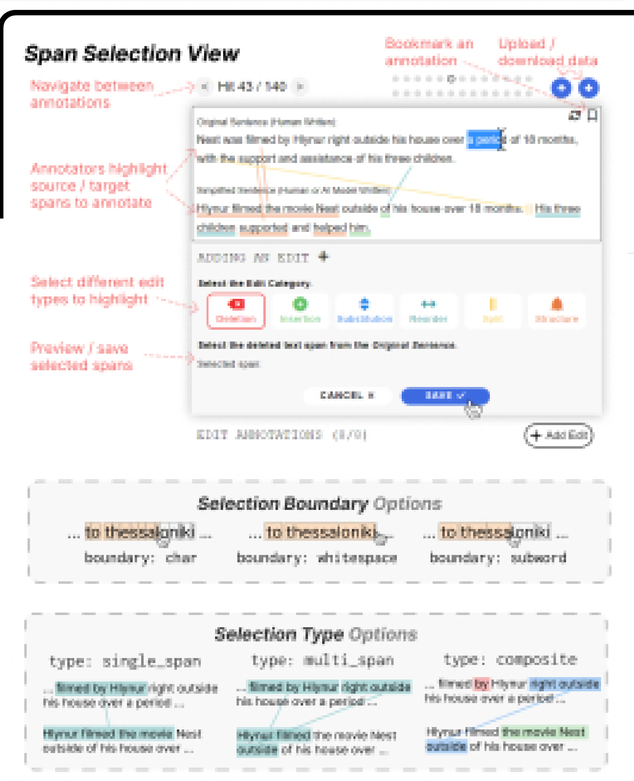
Complex, overlapping span selection!



② *Highly* **Customizable**

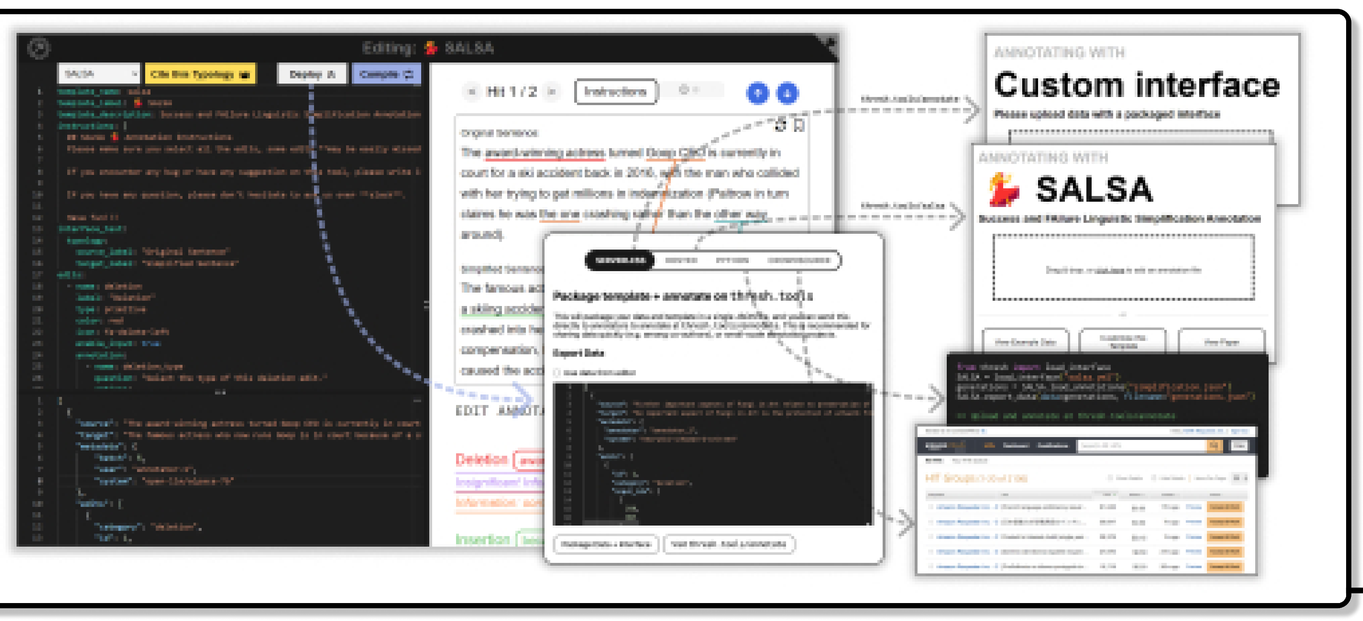
- 3 types: *Single-*, *Multi-*, *Composite*
- Specify span selection by token boundaries





- **Annotator Adjudication.** Deploy interfaces side-by-side for manual inspection
- **14 Languages Supported.** Fully custom interface text, supports `zh`, `en`, `es`, `hi`, `pt`, `bn`, `ru`, `ja`, `vi`, `tr`, `ko`, `fr`, `ur`
- **Paragraph Annotation**. Specify additional context and display options to reduce lengthy long-form annotation

③ **Deploy** *to MTurk, Prolific + More!*



- Upload your interface directly, or host your own template in Github or Huggingface to share and visualize data collected from your project
- Deployment tutorials for **MTurk** and **Prolific**
- Integration with lightweight databases like **Google Firebase** to manage collected annotations

12 existing implementations across MT, open-ended generation, summarization!

Framework	Task	Released	Link
Evaluation			
MQM (Freitag et al., 2021)	Translation	✓	thresh.tools/mqm
FRANK (Pagnoni et al., 2021)	Summarization	✓	thresh.tools/frank
SNaC (Goyal et al., 2022b)	Narrative Summarization	✓	thresh.tools/snac
Scarecrow (Dou et al., 2022a)	Open-ended Generation	✓	thresh.tools/scarecrow
SALSA (Heineman et al., 2023)	Simplification	✓	thresh.tools/salsa
ERRANT (Bryant et al., 2017)	Grammar Error Correction	✗	thresh.tools/errant
FG-RLHF (Wu et al., 2023)	Fine-Grained RLHF	✓	thresh.tools/fg-rlhf
Inspection			
MultiPIT (Dou et al., 2022b)	Paraphrase Generation	✗	thresh.tools/multipit
CWZCC (Himoro and Pareja-Lora, 2020)	Zamboanga Chavacano Spell Checking	✗	thresh.tools/cwzcc
Propaganda (Da San Martino et al., 2019)	Propaganda Analysis	✓	thresh.tools/propaganda
arXivEdits (Jiang et al., 2022)	Scientific Text Revision	✓	thresh.tools/arxivedits

④ **End-to-End** *Integration with Python*

```
pip install thresh
```

```
from thresh import load_interface, convert_dataset

# Load SALSA data using the SALSA typology
SALSA = load_interface("salsa.yml")
salsa_data = SALSA.load_annotations("salsa.json")

# Convert to the thresh.tools standardized format
thresh_data = convert_dataset(
    data_path="<path_to_original_data>",
    dataset="<dataset_name>"
)
```

- Integrate your interface with the `thresh` library, installable from PyPi
- Convert to the **unified data model** from existing interfaces / data in *one line*
  - Supports type checking of collected annotations, parsing into Python functions, and recursive annotation!
- **Thresh** has already been used in large-scale data annotation, and we release demo notebooks for fine-grained data analysis tools

```
print(cwzcc_data[0])

Annotation(
  target = “Pirmi man iyo ta sinti ...”,
  edits = [
    ...
    Edit(
      edit_id = 5,
      text = “Nusabe”,
      output_idx = [[31, 37]],
      category = “unintentional”,
      annotation = Annotation(
        error_type = ErrorType(
          non_random = NonRandom(
            regular_error = RegularError(
              segmentation = Segmentation(
                val = “space_omission”
      )))))
    ),
    ...
  ]
)
```