The Elephant in the Coreference Room: Resolving Coreference in Full-Length French Fiction Works

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Context: Coreference Resolution for Computational Narratology

Digitised Books Corpora

Reliable **character extraction** in fiction **begins with** robust **coreference resolution**

Fictional Character Extraction

Direct Speech Detection
Characters Network
Features extraction

Downstream Processes

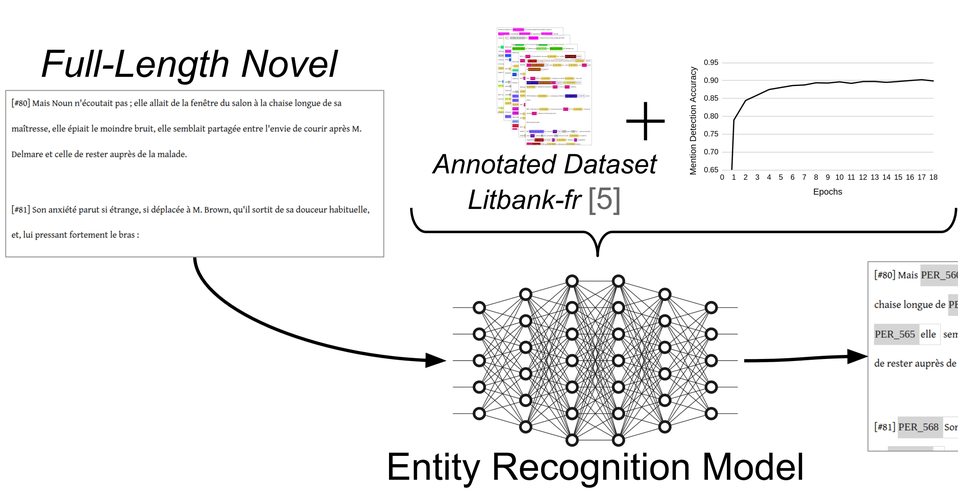
- Computational Literary Studies
- Cultural Analytics
- Digital Humanities

Data Mismatch: Annotated Dataset VS Downstream Applications

Datasets	Lang.	Domain	Doc.	Tokens / Doc.	
				Average	Maximum
Annotated Datasets					
OntoNotes^{en} – 2013 [1]	English	Non-literary	3,493	**467**	4,009
RiddleCoref – 2019 [2]	Dutch	Fiction	21	**5,102**	–
LitBank – 2020 [3]	English	Fiction	100	**2,105**	3,419
KoCoNovel – 2024 [4]	Korean	Fiction	50	**3,578**	19,875
LitBank-fr – 2024 [5]	French	Fiction	28	**9,834**	30,987
Target Datasets					
Project Gutenberg	English	Fiction	61,300	**110,000**	1,105,964
National Library of France - Gallica	French	Fiction	15,000	**100,000**	878,645

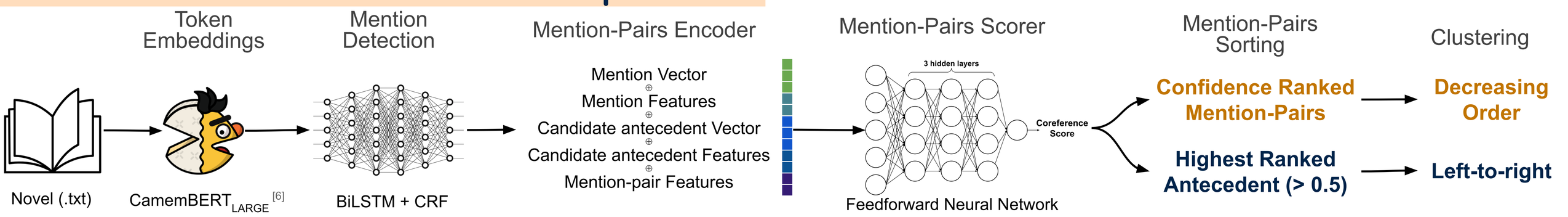
Existing annotated fiction coreference datasets are, on average, **10× shorter** than the narratives used in real-world applications.

New Annotated Dataset

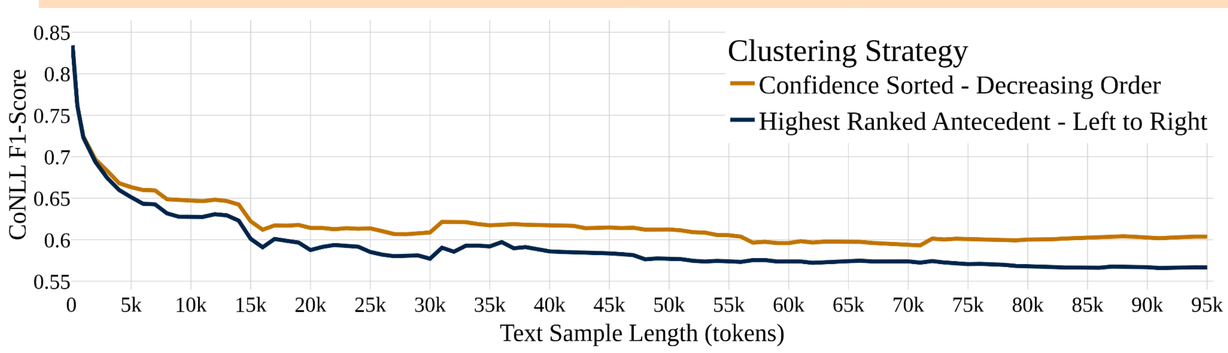


Documents	3
Average Tokens / Doc.	**95,058**
Average Mentions / Doc.	13,178
Coreference Chains / Doc.	159
Average Mentions / Chain	82
Maximum Mentions / Chain	4,932
Average Entity Spread (tokens)	17,529
Maximum Entity Spread (tokens)	115,369
Plural Mentions Ratio	8.13 %
Proper Mentions	12.79 %
Nominal Mentions	12.26 %
Pronominal Mentions	74.95 %

Coreference Resolution Pipeline



Document Length Impact on Coreference Resolution Performance



Corpus (test set)	Model	Mentions	Tokens / Doc	MUC	B³	CEAFe	CoNLL
LitBank-fr (test-set)	End-to-end [x]	Gold	2,000	88.0	69.2	71.8	76.4
LitBank-fr (test-set)	**Ours**	Gold	2,000	**92.43**	**70.67**	**75.59**	**79.56**
Long-LitBank-fr (3 docs)	**Ours**	Predicted	93,019	95.59	45.40	35.95	58.98
Cross-datasets							
BookCoref$_{gold}$ [7]	Longdoc [x]	Predicted	76,419	93.5	62.4	45.3	67.0
BookCoref$_{gold}$ [7]	Maverick-xl [x]	Predicted	76,419	94.3	55.3	33.4	61.0
Long-LitBank-fr (3 docs)	**Ours**	Predicted	76,000	**94.99**	**47.51**	**37.49**	**60.00**

Perspectives

- Multilingual adaptation: 🇬🇧 English 🇮🇹 Italian 🇷🇺 Russian
- Downstream applications: 🎭 Character Archetypes, ⚥ Gender Study

[1] Ralph Weischedel, Martha Palmer, Mitchell Marcus, Eduard Hovy, Sameer Pradhan, Lance Ramshaw, Nianwen Xue, Ann Taylor, Jeff Kaufman, Michelle Franchini, Mohammed El-Bachouti, Robert Belvin, and Ann Houston. 2013. OntoNotes release 5.0

[2] Andreas van Cranenburgh. 2019. A dutch coreference resolution system with an evaluation on literary fiction. Computational Linguistics in the NetherlandsJournal, 9:27–54.

[3] David Bamman, Olivia Lewke, and Anya Mansoor.2020. An annotated dataset of coreference in English Literature. In Proceedings of the Twelfth LanguageResources and Evaluation Conference, pages 44–54,Marseille, France. European Language Resources Association

[4] Kyuhee Kim, Surin Lee, and Sangah Lee. 2024. Ko-conovel: Annotated dataset of character coreference in korean novels.

[5] Frédérique Mélanie, Jean Barré, Olga Seminck, Clé-ment Plancq, Marco Naguib, Martial Pastor, and Thierry Poibeau. 2024. Booknlp-fr, the french versant of booknlp. a tailored pipeline for 19th and 20th century french literature. Journal of Computational Literary Studies.

[6] Louis Martin, Benjamin Muller, Pedro Javier Ortiz Suárez, Yoann Dupont, Laurent Romary, Éric de la Clergerie, Djamé Seddah, and Benoît Sagot. 2020. CamemBERT: a Tasty French Language Model. Association for Computational Linguistics.

[7] Giuliano Martinelli, Tommaso Bonomo, Pere-Lluís Huguet Cabot, and Roberto Navigli. 2025. BOOKCOREF: Coreference Resolution at Book Scale. Vienna, Austria. Association for Computational Linguistics.

Available Now

```
pip install propp_fr
import propp_fr
propp_fr.process_text_file("your_novel.txt")
```

Character Mention Detection Model
AntoineBourgois/propp-fr_NER_camembert-large_PER

Mention-Pairs Scorer
…/propp-fr_coreference-resolution_camembert-large_PER