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A Fully Shareable, Multiply-Alienated German Clinical Text Corpus

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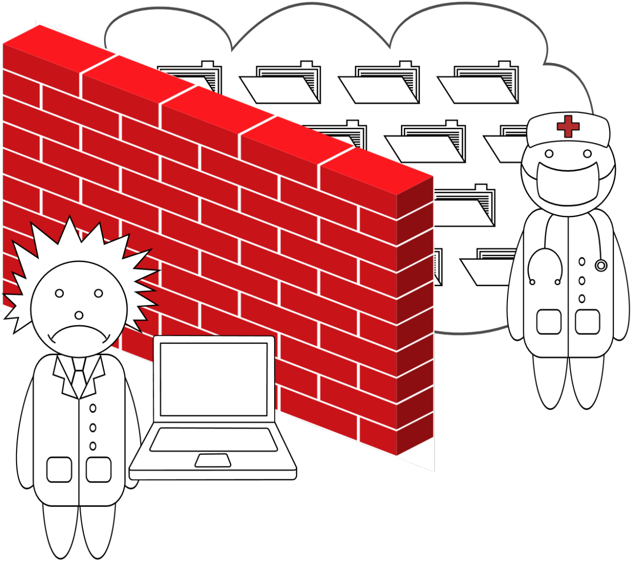
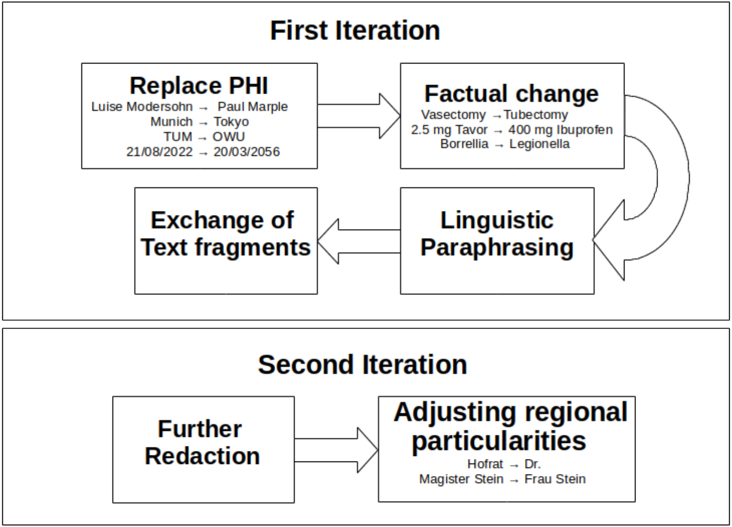
Barriers for Clinical Natural Language Processing (cNLP)



German Clinical and Medical Text Corpora

Corpus	Text genre	Original	# Docs	Shareability
3000PA$_J$ [4]	Discharge summaries	True	1,100	Non-Shareable
BRONCO150 [5]	Discharge summaries	Shuffled sentences	150	DUA
JSynCC [6]	Medical Textbooks	True	399	Code for re-creation
GGPOnc 1.0 [3]	Clinical practice guidelines	True	8,420	DUA
GGPOnc 2.0 [2]	Clinical practice guidelines	True	10,190	DUA
This work	**Case reports**	**Redacted**	**63**	**Fully Shareable**

Corpus construction



First Iteration

Replace PHI
Luise Modersohn → Paul Marple
Munich → Tokyo
TUM → OWU
21/08/2022 → 20/03/2056

Factual change
Vasectomy → Tubectomy
2.5 mg Tavor → 400 mg Ibuprofen
Borrellia → Legionella

Linguistic Paraphrasing

Exchange of Text fragments

Second Iteration

Further Redaction

Adjusting regional particularities
Hofrat → Dr.
Magister Stein → Frau Stein

Experimental Setup

Datasets

Clinical	3000PA$_J$ [4], Bronco150 [5]
Medical	JSynCC [6], GGPOnc [3], PubMed
General	Krauts [10], WikiWars_De [9]

Features

- Linguistic Features (Word count, Sentences, Stop words)
- Occurrences of UMLS [1] terms (Anatomy, Disorders, Living Being)
- Medications from *Rote Liste*

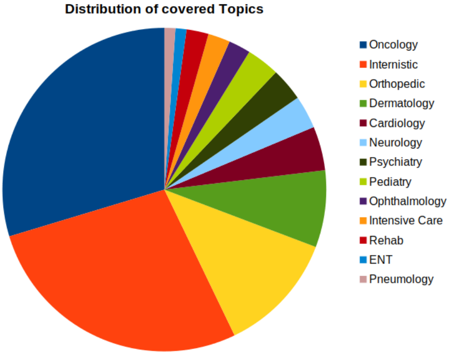
Clustering

- Max. 1000 documents per dataset
- Normalization (per document word count) and scaling
- K-means [8] and t-SNE [7]

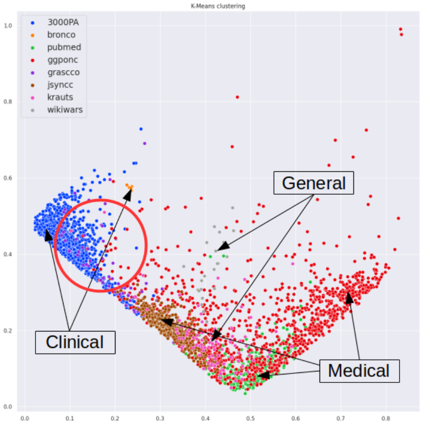
Corpus description

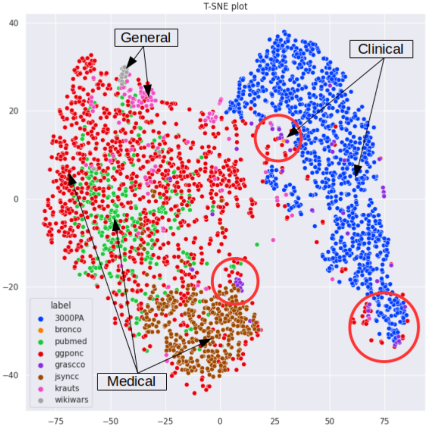
Key Data

Documents	63
Sentences	5,430
Tokens	43.667
Licence	CC0 1.0 Universal
Sex distr.	1:1
In-patient	60 %



Visualization





Conclusion

- First freely shareable German clinical corpus (Creative Commons licence)
- Preliminary evidence for closeness to clinical documents
- 63 documents, ca. 5k sentences, ca. 43k token
- Small in size → addressed in future releases
- Documents may be medically implausible

References

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