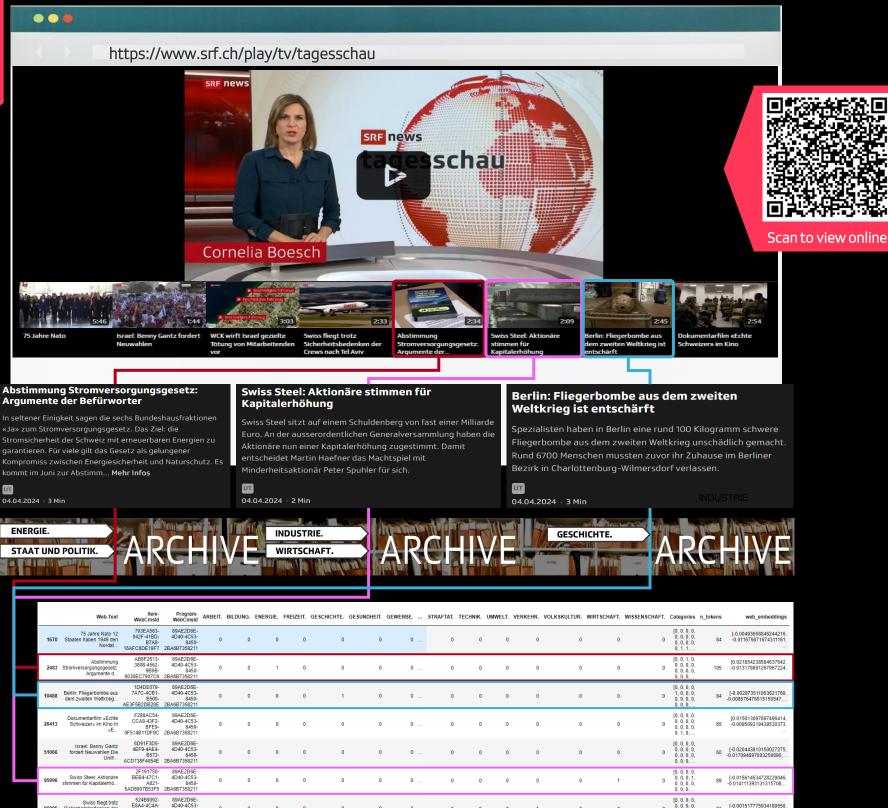
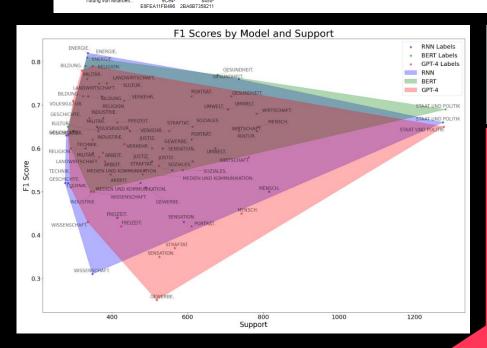


## Automating Video Metadata Generation: Evaluating RNN, BERT, and GPT-4





Aggregation	Model	Precision	Recall	F1-Score	Accuracy*	Support**
Macro Average	Random Baseline	0.08	0.08	0.08	85.8%	13370
	RNN	0.75	0.47	0.57	94.7%	13370
	BERT	0.74	0.59	0.65	95.1%	13365
	ChatGPT 4	0.65	0.50	0.54	93.7%	13275
Samples	Random Baseline	0.08	0.09	0.08	85.8%	13370
Average	RNN	0.66	0.51	0.55	94.7%	13370
	BERT	0.75	0.63	0.66	95.2%	13365
	ChatGPT 4	0.62	0.55	0.55	93.7%	13275

- Samples Average: Evaluates the metric for each sample based on its true and false predicted classes and returns the average of these sample-level
- Recall: Correct positive predictions over actual positives F1 Score: Harmonic mean of Precision and Recall.

\*Hamming Accuracy: Fraction of exact matches in multi-label classification.
Hamming Accuracy was computed for Macro and Sample Average. The random baseline model shows that by guessing randomly the Accuracy would still be 85.8% or higher due to the huge number of true negatives in the dataset. \*\* The Support refers to the overall occurrence of positive labels in the test set. There are minimal differences between the models because of the different max-token length limitations between ChatGPT 4, the OpenAI Embedding API