

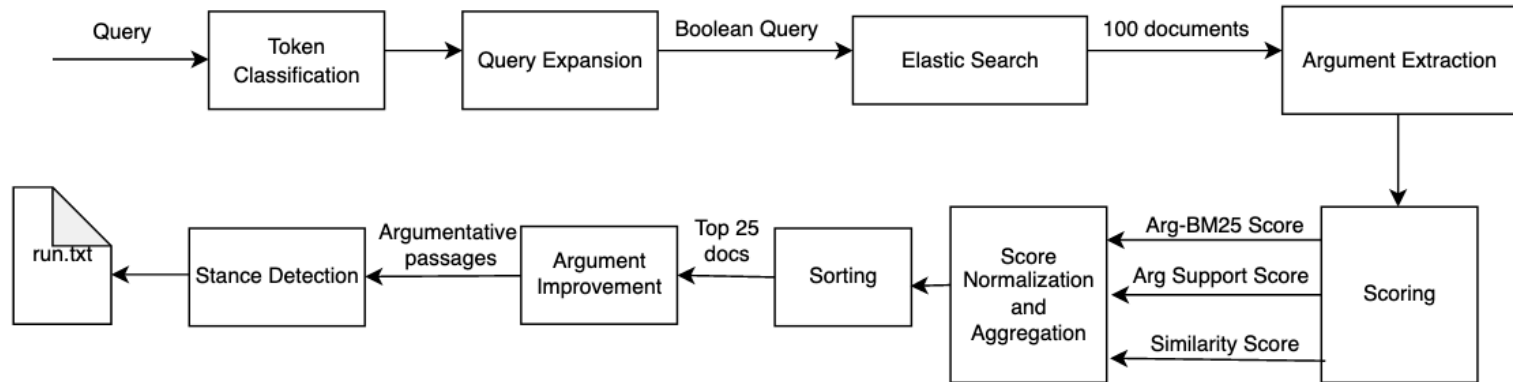
Stacked Model based Argument Retrieval and Stance Detection using embedded LSTM model

Touché @ CLEF 2022 - Task 2

Team Olivier Armstrong

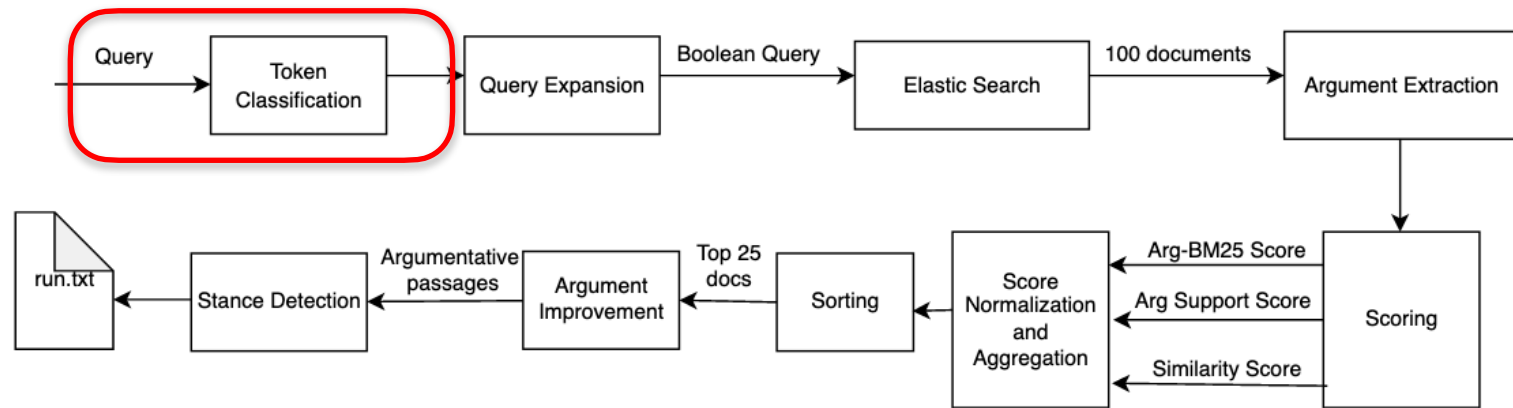
Pavani Rajula*, Chia-Chien Hung, Simone Paolo Ponzetto
Data and Web Science Group, University of Mannheim

Architecture Overview

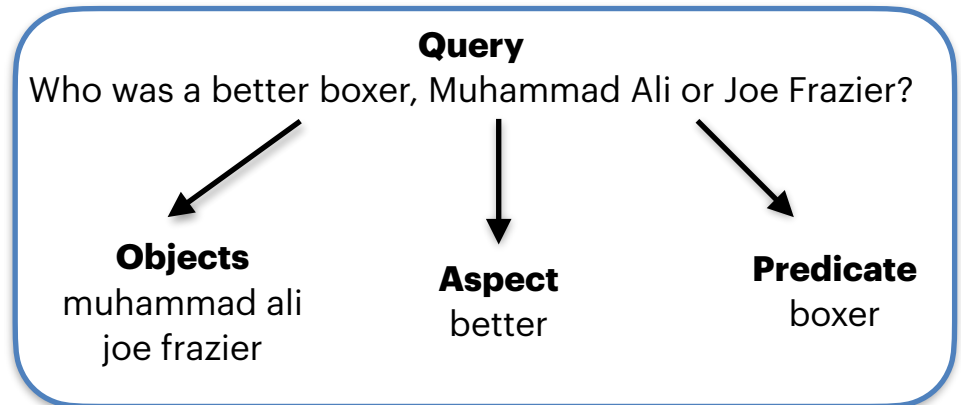


- Token Classification
- Query Expansion & Retrieval
- Argument Extraction
- Scoring & Ranking
- Stance Detection

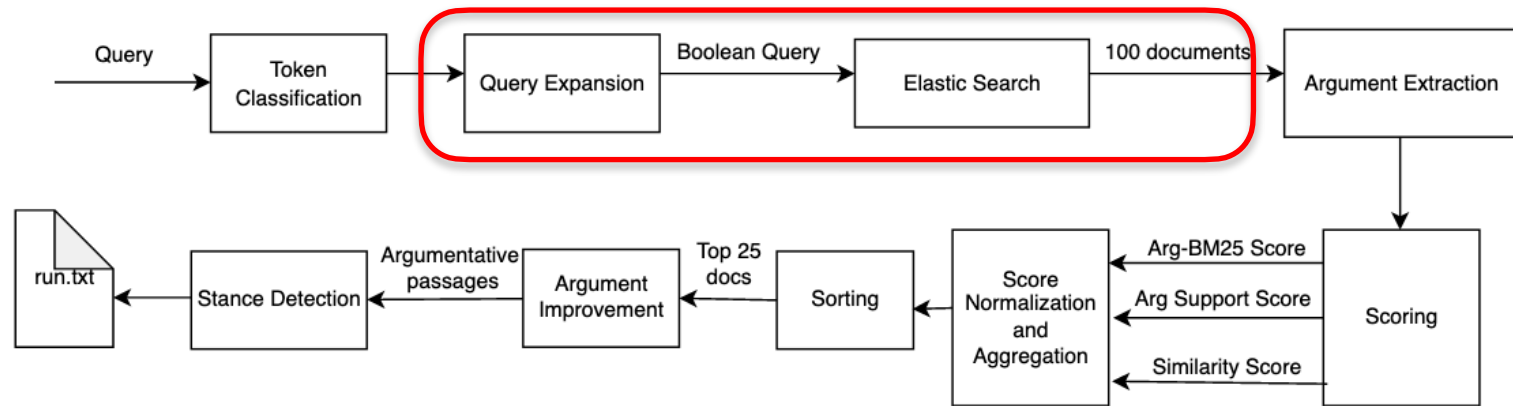
Token Classification



- NER model using RoBERTa classifier
- MS MARCO dataset



Query Expansion & Retrieval



- Original Query + Boolean Query
- Documents Pre-processing
- Elastic Search Client

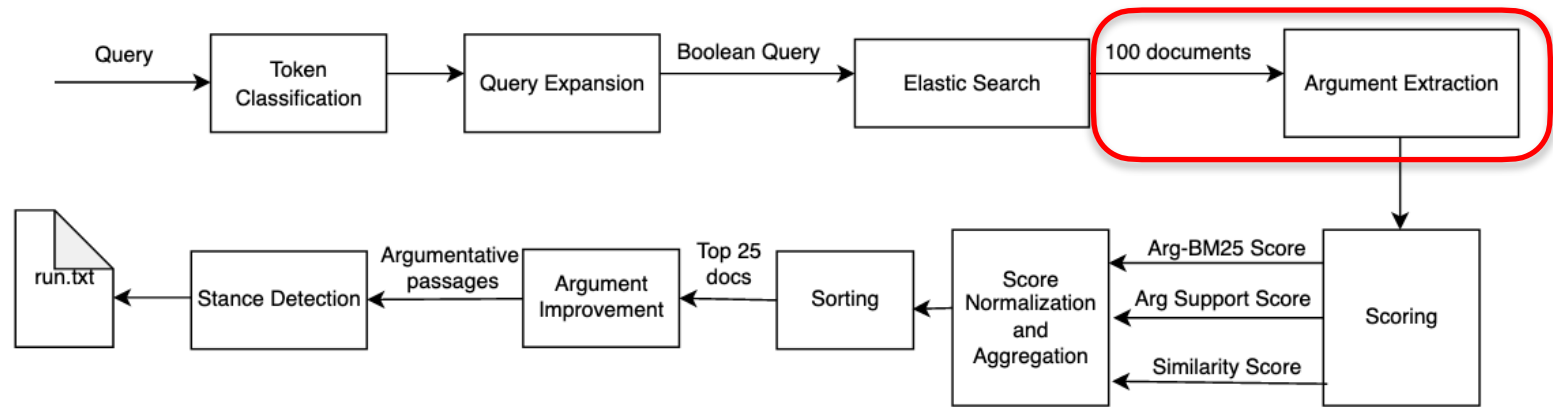
Objects + Synonyms

MUST WORDS

Aspect + Antonyms/Synonyms
Predicate

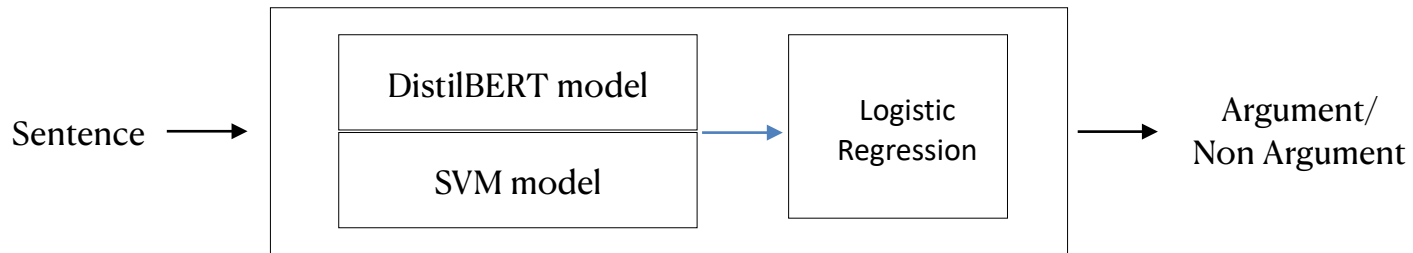
SHOULD WORDS

Argument Extraction

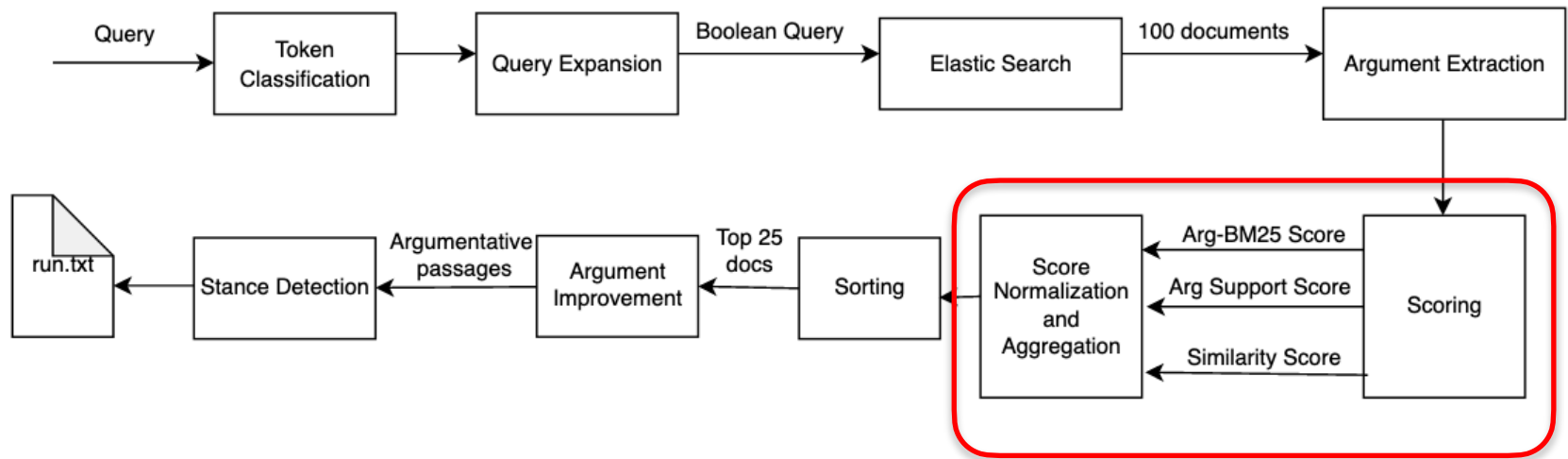


Stacking Approach for Cross-Domain Argument Identification

Alhamzeh, Alaa & Bouhaouel, Mohamed & Egyed-Zsigmond, Előd & Mitrović, Jelena & Brunie, Lionel & Kosch, Harald. (2021).

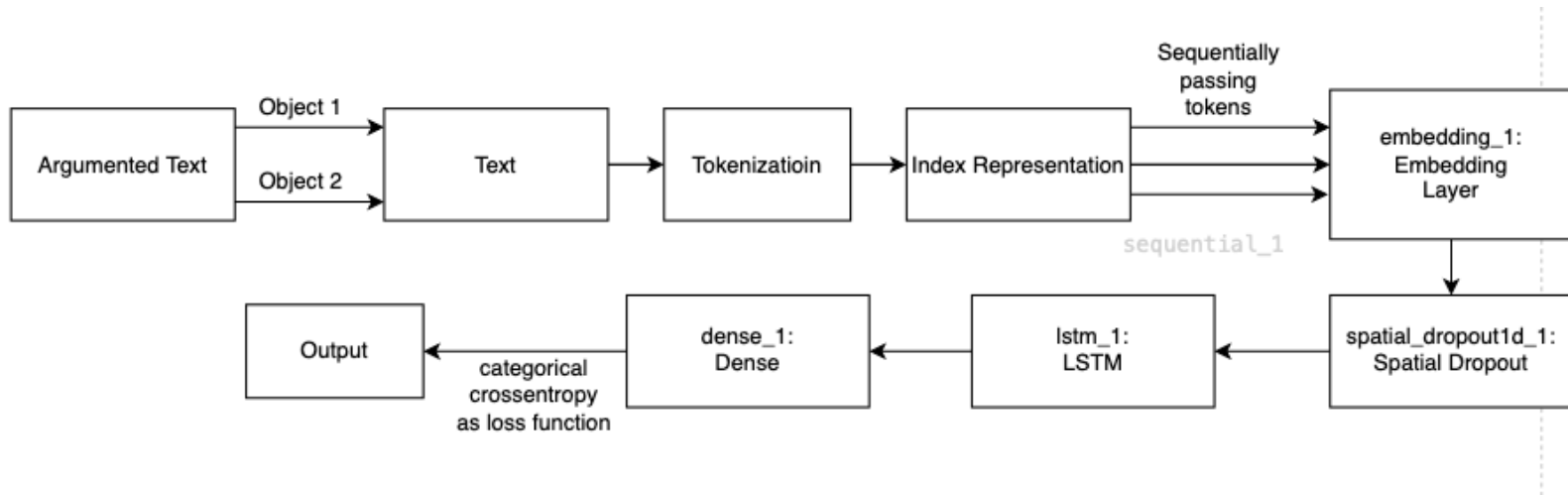


Scoring & Ranking



Stance Detection

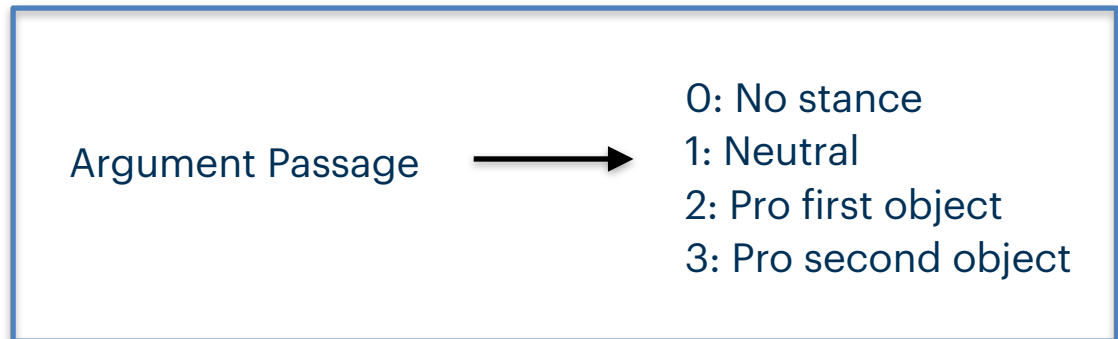
Model Architecture



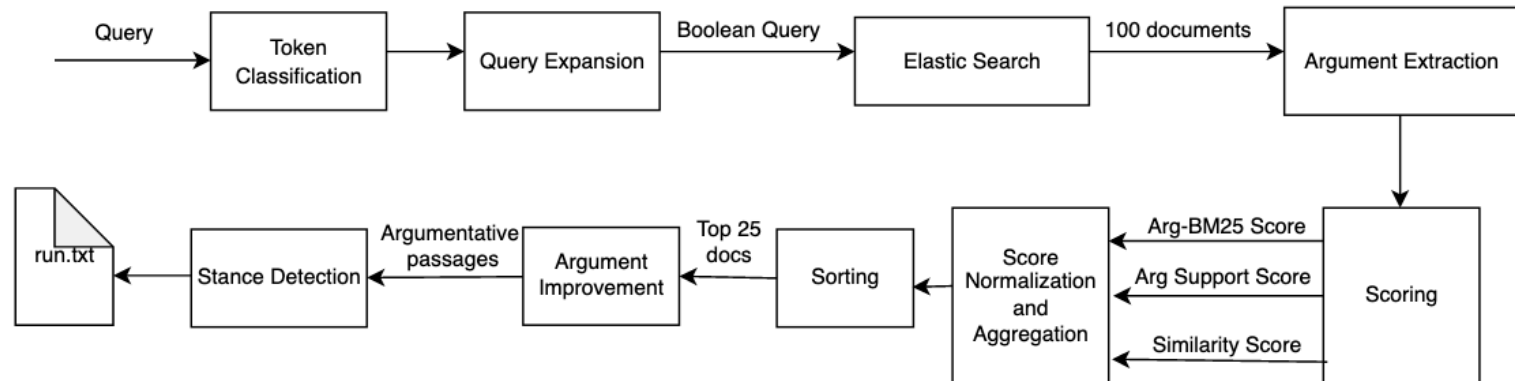
Datasets

Stack Exchange dumps

L6 - Yahoo! Answers
Comprehensive
Questions and Answers



Architecture Overview



Results

Results for Relevance Evaluation

TEAM	TAG	MEAN NDCG@5	CI95 LOW	CI95 HIGH
Olivier Armstrong	tfid_arg_similarity	0.492	0.414	0.569
Puss in Boots	BM25-Baseline	0.469	0.403	0.538

Results for Quality Evaluation

TEAM	TAG	MEAN NDCG@5	CI95 LOW	CI95 HIGH
Olivier Armstrong	tfid_arg_similarity	0.582	0.506	0.662
Puss in Boots	BM25-Baseline	0.476	0.401	0.556

Results for Stance Prediction

TEAM	TAG	F1_MACRO_RUN	N_RUN	F1_MACRO_TEAM	N_TEAM
Olivier Armstrong	tfid_arg_similarity	0.191	551	0.191	551
Puss in Boots	Always-NO-Baseline	0.158	1328	0.158	1328

- Performed well and had slight improvement over the baseline

Paper:

Stacked Model based Argument Extraction and Stance Detection using Embedded LSTM model

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Github Repo :

<https://github.com/rpavani1998/Touche-2022-ComparativeRetrieval>

Thank you!