

Experimenting a “general purpose” textual entailment learner in AVE

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Track: Question Answering, Answer Validation Exercise

Motivating the approach (1)

$T_1 \Rightarrow H_1$

T_1 “At the end of the year, all solid companies pay dividends.”

H_1 “At the end of the year, all solid insurance companies pay dividends.”



$T_1 \not\Rightarrow H_2$

T_1 “At the end of the year, all solid companies pay dividends.”

H_2 “At the end of the year, all solid companies pay cash dividends.”



Similarity Models would ask:

$$\text{sim}(T_1, H_1) > \text{sim}(T_1, H_2) ?$$

Motivating the approach (2)

$T_1 \Rightarrow H_1$

(T₁)

“At the end of the year, all solid companies pay dividends.”

(H₁)

“At the end of the year, all solid insurance companies pay dividends.”

$T_1 \not\Rightarrow H_2$

(T₁)

“At the end of the year, all solid companies pay dividends.”

(H₂)

“At the end of the year, all solid companies pay cash dividends.”

$S_2 < S_1$

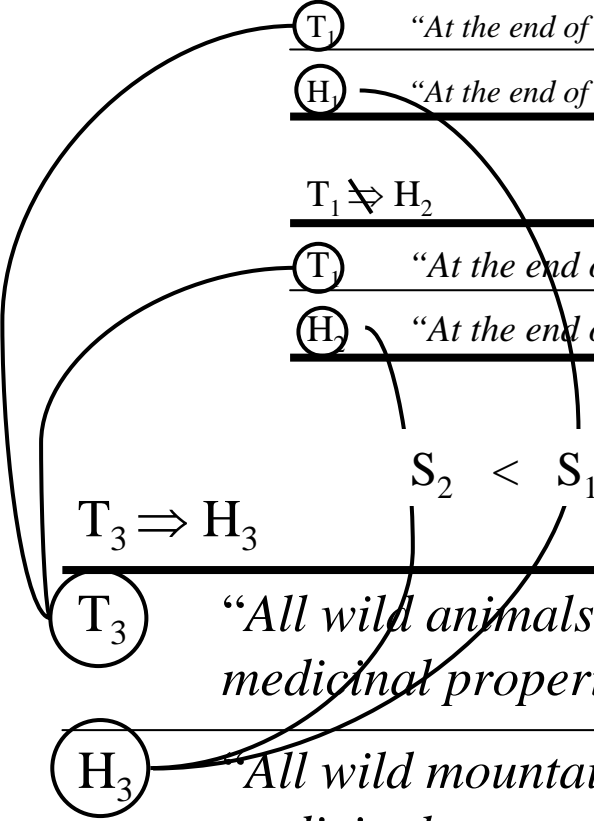
$T_3 \Rightarrow H_3$

(T₃)

“All wild animals eat plants that have scientifically proven medicinal properties.”

(H₃)

“All wild mountain animals eat plants that have scientifically proven medicinal properties.”



Our Model

Learn entailment rules using a similarity between pairs based on:

$$K((T', H'), (T'', H'')) = K_I((T', H'), (T'', H'')) + K_S((T', H'), (T'', H''))$$

– Intra-pair similarity: $K_I((T', H'), (T'', H'')) = s(T', H') \times s(T'', H'')$

