

FNESS-SHPM

CNESS-SHPM

Candidate Edge

"Ann plays a ballad"

(plays/P ann/C (a/M ballad/C))

Reference Words

piano

theatre

(plays/P ann/C (semsim-fix >[piano, theatre]/C))

(plays/P ann/C (a/M ballad/C))

Candidate Word

ballad

Fixed Word Neural Embedding Model

"ballad"
embedding

"piano"
embedding

"theatre"
embedding

Cosine Similarity

Maximum

Similarity Thershold Comparison

Match / No Match

CNESS-SHPM

"Ann plays the lead melody in an opera"

(plays/P ann/C (the/M (lead/M melody/C)) (in/T (an/M opera/C)))

Reference Edges

"Ann plays piano"

(plays/P ann/C piano/C)

"Ann plays theatre"

(plays/P ann/C theatre/C)

"Ann plays them main character in a drama"

(plays/P ann/C (the/M (main/M character/C)) (in/T (a/M drama/C)))

((semsim-ctx */P) ann/C */C *)

(plays/P ann/C piano/C)

(plays/P ann/C theatre/C)

(plays/P ann/C (the/M (main/M character/C)) (in/T (a/M drama/C)))

(plays/P ann/C (the/M (lead/M melody/C)) (in/T (an/M opera/C)))

Contextual Neural Embedding Model

"plays"
embedding

"plays"
embedding

"plays"
embedding

"plays"
embedding

Cosine Similarity

Maximum

Similarity Thershold Comparison

Match / No Match