

# Graph-based alignment of narratives for neurological assessment

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Narrative recall tasks are widely used in neuropsychological evaluation protocols in order to detect symptoms of disorders such as autism, language impairment, and dementia. In this paper, we propose a graph-based method commonly used in information retrieval to improve word-level alignments in order to align a source narrative to narrative retellings elicited in a clinical setting. From these alignments, we automatically extract narrative recall scores which can then be used for diagnostic screening. The significant reduction in alignment error rate (AER) afforded by the graph-based method results in improved automatic scoring and diagnostic classification. The approach described here is general enough to be applied to almost any narrative recall scenario, and the reductions in AER achieved in this work attest to the potential utility of this graph-based method for enhancing multilingual word alignment and alignment of comparable corpora for more standard NLP tasks.