A Model for Temporal Neural Word Embedding

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Abstract

Understanding consumers' brand associations is essential to the development of effective marketing strategies. It enables firms to determine brand's positioning and informs new product development and marketing mix design. A rich and abundant source for consumers' brand associations is user-generated-content (UGC). However, UGC data are usually big and unstructured. To process them, researchers turned to neural word embeddings. However, extant models suffer from a major shortcoming: Their inability to consider temporal information. Yet, UGC commonly spans across years during which consumers' brand associations can change. Treating such longitudinal data as cross-sectional can provide outdated insights about brand's positionings. The herein proposed new model Dory explicitly considers temporal information in language. We show both by simulation and in an empirical application that Dory outperforms extant models and uncovers meaningful changes in consumers' brand associations.

Keywords: *word2vec; associations; UGC*

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