

METHODS, DEVICES AND SYSTEMS OF TEXT STRING EMBEDDING AND AUTHENTICATION

ABSTRACT

The present specification provides methods, devices, and systems for text string embedding and text string authentication. In some examples, there is provided a method of text string embedding. The method comprises: accessing stored history data comprising text strings and device identifiers, wherein each of the device identifiers is associated with one or more of the text strings; and generating an embedding look-up table comprising a plurality of keys and a plurality of values, wherein the generating the embedding look-up table comprises: splitting the text strings in the history data into a plurality of words; generating a graph with the plurality of words and the device identifiers by: denoting each word in the plurality of words as a node of a first type; denoting each of the device identifiers as a node of a second type; and for each node of the second type, building edges by linking the node of the second type denoting one of the device identifiers to ones of the nodes of the first type, the linked ones of the nodes of the first type denoting words that are comprised in one or more of the text strings associated with the one of the device identifiers; training an embedding model using the generated graph; and constructing the embedding look-up table based on the trained embedding model, wherein each of the plurality of keys of the embedding look-up table comprises one of the nodes of the first type and the nodes of the second type, and wherein each of the plurality of values of the embedding look-up table comprises a vector corresponding to the one of the nodes of the first type and the nodes of the second type.

(Figure 1)