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(54) Title: ERROR-BOUNDED APPROXIMATE TIME SERIES JOIN USING COMPACT DICTIONARY REPRESENTATION OF TIME SERIES

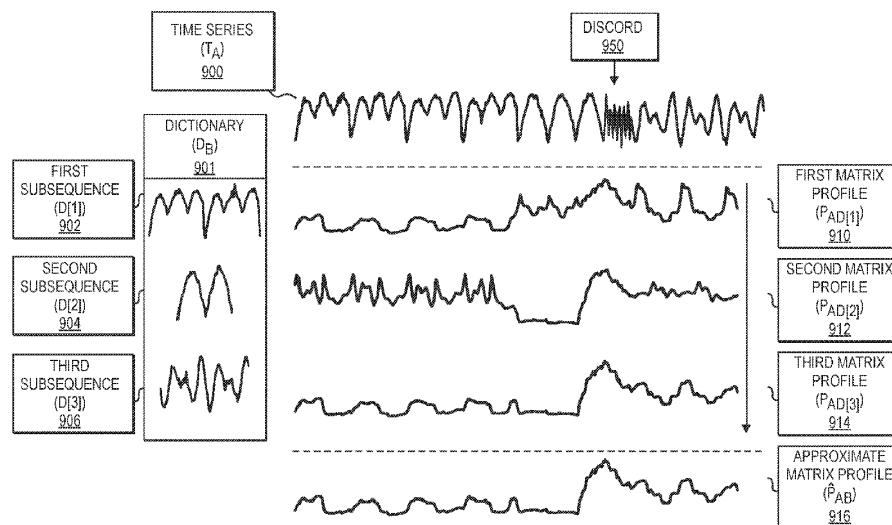


FIG. 9

(57) Abstract: A method is disclosed. The method comprises determining a time series, a subsequence length. The length of the time series may then be determined, and an initial matrix profile may then be computed. The method may then form a processed matrix profile for a first subsequence of the subsequence length by applying the first subsequence to the initial matrix profile. A second subsequence may then be determined from the processed matrix profile. The method may then include comparing the second subsequence to other subsequences in a dictionary and adding it to the dictionary. The subsequences in the dictionary may be used to generate a plurality of subsequence matrix profiles. The method may then include forming an approximate matrix profile using the plurality of subsequence matrix profiles and then determining one or more anomalies in the time series or another time series using the approximate matrix profile.

[Continued on next page]

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