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(54) Title: SYSTEM, METHOD, AND COMPUTER PROGRAM PRODUCT FOR STATE COMPRESSION IN STATEFUL MACHINE LEARNING MODELS

(57) Abstract: Described are a system, method, and computer program product for state compression in stateful machine learning models. The method includes receiving a transaction authorization request for a transaction and loading at least one encoded state of a recurrent neural network (RNN) model from a memory. The method further includes decoding the at least one encoded state by passing each encoded state through a decoder network to provide at least one decoded state. The method further includes generating at least one updated state and an output for the transaction by inputting at least a portion of the transaction authorization request and the at least one decoded state into the RNN model. The method further includes encoding the at least one updated state by passing each updated state through an encoder network to provide at least one encoded updated state, and storing the at least one encoded updated state in the memory.

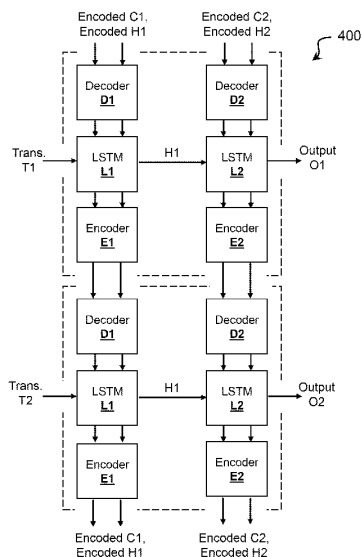


FIG. 4

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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