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(54) Title: SELF-ADAPTIVE HEALTH MONITORING SYSTEMS INCLUDING NETWORKS OF TENSOR NETWORKS

(57) Abstract: A computer system includes memory hardware configured to store computer-executable instructions, and a network of multiple tensor networks, each tensor network including multiple nodes. The computer system includes processor hardware configured to execute the computer-executable instructions to transmit a ping request from a first tensor network of the multiple tensor networks to a second tensor network of the multiple tensor networks, contract multiple nodes of the second tensor network in response to the ping request, to generate a probability distribution indicative of a state information of the second tensor network, transmit the probability distribution from the second tensor network to the first tensor network, and update the first tensor network to connect the probability distribution with at least one of multiple nodes of the first tensor network.