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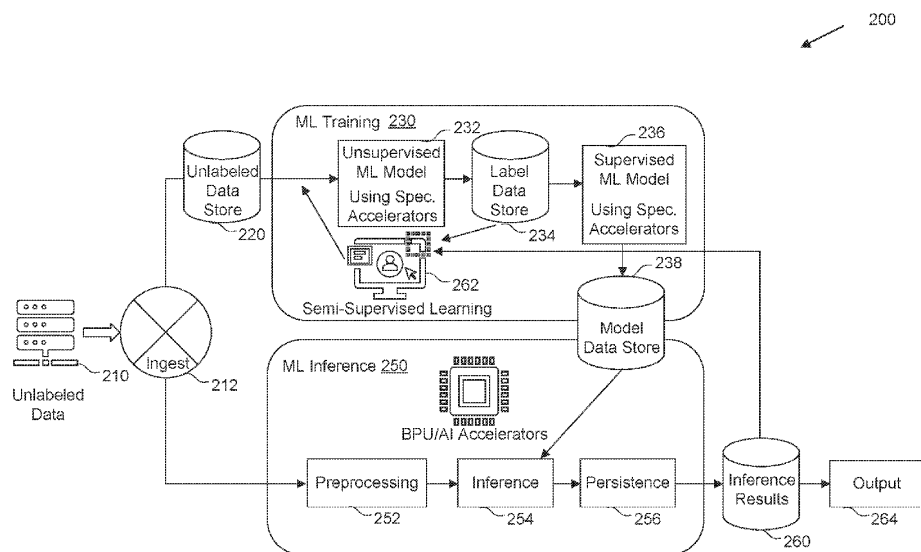


FIG. 2

(57) Abstract: Systems and methods are described for automated threat detection. For example, the system receives various types of unlabeled data and determines, through an unsupervised machine learning model, a label for the data. The labels are provided to a supervised machine learning model during a first training process. When new data is received, the supervised machine learning model is executed during an inference process to cluster the new data in accordance with the labels that were determined by the unsupervised machine learning model. In some examples, a label audit process may be implemented to update the cluster/output of the supervised machine learning model. The updated labels from the label audit process may be provided back to the supervised machine learning model during a second training process. In other words, the system may combine the unsupervised machine learning model with a supervised machine learning model to perform automated threat detection.

[Continued on next page]

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