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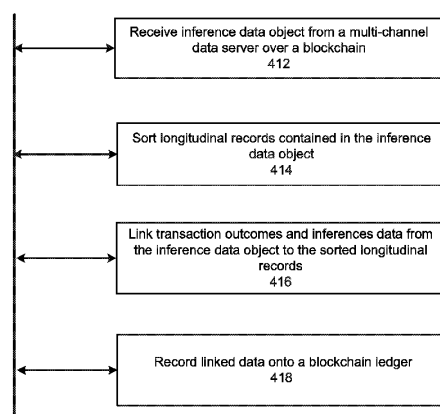


FIG. 4A

(57) **Abstract:** An example operation includes one or more of receiving, by a data processing node, inference data object from a multi-channel data server over a blockchain, sorting, by the data processing node, longitudinal records contained in the inference data object, linking, by the data processing node, transaction outcomes and inferences data from the inference data object to the sorted longitudinal records, and recording linked data onto a blockchain ledger. The data processing node serves as a validator of data from a robo-advisory using natural language (NL) processing to reduce bias and measure effectiveness of inference from the robo-advisory.

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