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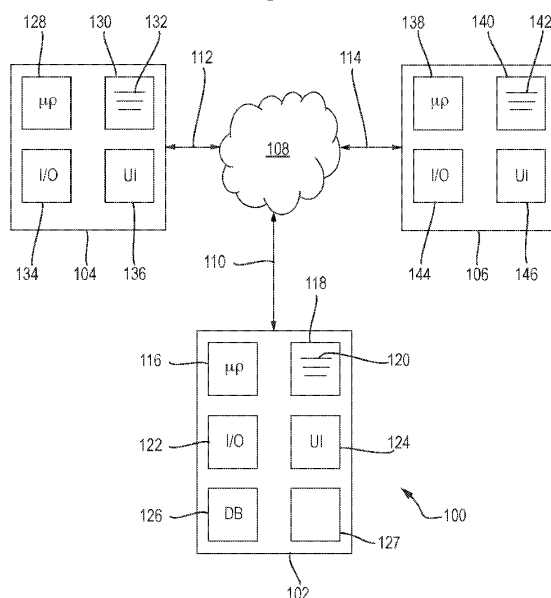
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(54) Title: COMPUTER-IMPLEMENTED APPARATUS AND METHOD FOR PREDICTING TRAFFIC CONDITIONS IN A ROUTE PLANNING APPLICATION

Fig. 1



(57) Abstract: A computer-implemented apparatus, and associated method, for predicting traffic conditions in respect of a specified route selected from within a road network representative of a geographical region. The computer-implemented apparatus comprises a processor and memory and is configured, under control of the processor, to execute instructions stored in the memory to: receive input data representative of said specified route comprising one or more road segments between a start location and a destination selected from within a road network representing a geographical region; obtain a diffusion graph representative of said specified route, said diffusion graph comprising edges connected by nodes, wherein a weight associated with each edge comprises a respective transition probability representing a likelihood of traffic on a respective road segment diffusing to another road segment; and use a Transformer-based framework to predict a traffic condition for each segment of the route; wherein said Transformer-based framework comprises an attention module and an input configured to receive a set of input dimensions for each segment of the route, said dimensions including at least a respective transition probability and temporal data, said Transformer-based framework further comprising an attention adjust module configured to receive each set of input dimensions and generate therefrom a weight modifier for modifying attention weights generated by said attention module based on the likelihood of a traffic state on one road segment influencing a traffic state on another road segment.

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