CLAIMS

1. A computer implemented method for determining provenance and using machine learning to generate a digital identity of a first entity purporting to be a second entity defined by one of a publisher and an intermediary representing the publisher, the computer implemented method comprises:

identifying a plurality of metrics of a digital advertising request that is received, using a transceiver of a computing device, from a first entity computing device of the first entity, wherein the plurality of metrics comprises at least one of (i) a serving constraint having a serving constraint value and (ii) a protocol having a protocol value;

converting the plurality of metrics to a plurality of embeddings;

generating, with a processor of the computing device using machine learning, a first portion of the digital identity of the first entity based on the plurality of embeddings;

comparing, with the processor using machine learning, the first portion of the digital identity to a second digital identity associated with the second entity that the first entity purports to be;

determining at least one second digital identity metric of the second digital identity that is not identified in the digital advertising request; and

generating a response to the digital advertising request comprising a solicitation for a reply message, from the first entity, comprising at least one second metric related to at least one second digital identity metric of the second digital identity that is not identified in the digital advertising request.

2. The computer implemented method of claim 1, further comprising

one of (i) sending the response with the transceiver to the first entity computing device and; (ii) sending the response with the transceiver to the first entity computing device after a delay.

3. The computer implemented method of claim 1, wherein

after determining the at least one second digital identity metric of the second digital identity that is not identified in the digital advertising request, then processing, with the processor, the first portion of the digital identity using machine learning and at least one clustering algorithm to predict one of (i) a predicted protocol value and (ii) a predicted serving constraint value for the at least one second digital identity metric of the second digital identity that is not identified in the digital advertising request.

4. The computer implemented method of claim 1, further comprising:

after determining the at least one second digital identity metric of the second digital identity that is not identified in the digital advertising request, then calculating, with the processor using machine learning and at least one clustering algorithm, an instability exhibited by a predicted value relative to the first portion of the digital identity and the second digital identity; and

wherein the predicted value comprises one of a predicted serving constraint value and a predicted protocol value for the at least one second digital identity metric of the second digital identity that is not identified in the digital advertising request.

5. The computer implemented method of claim 1 further comprising :

generating, with the processor using machine learning and at least one clustering algorithm, a level of confidence that the first entity is the second entity that it purports to be.

6. The computer implemented method of claim 1, further comprising:

after generating the response to the digital advertising request, then receiving, with the transceiver of the computing device, from the first entity computing device, the reply message comprising the at least one second metric.

7. The computer implemented method of claim 6, wherein after receiving the reply message, the computer implemented method further comprises : processing the at least one second metric using machine learning and at least one clustering algorithm to generate a second portion of the digital identity.

8. The computer implemented method of claim 7, comprising generating the digital identity by combining, with the processor using machine learning, the first portion of the digital identity and the second portion of the digital identity.

9. The computer implemented method of claim 8, comprising determining, with the processor using machine learning and the at least one clustering algorithm, a level of confidence that the first entity is the second entity that it purports to be by comparing the digital identity to the second digital identity.