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(54) **Title:** GENERATIVE ADVERSARIAL NETWORK (GAN) BASED FRAUD DETECTION

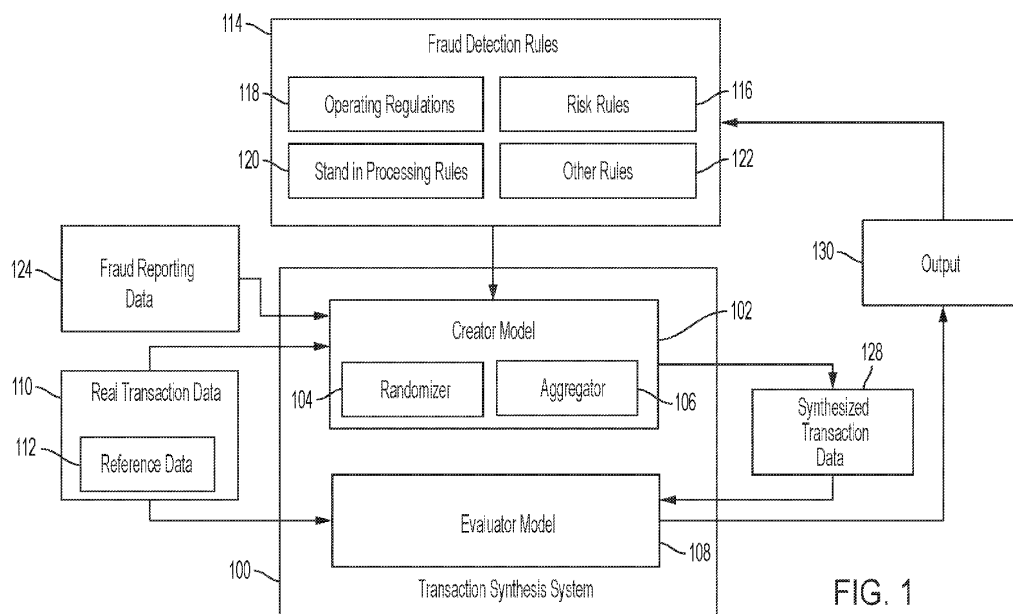


FIG. 1

(57) **Abstract:** The present disclosure provides various solutions that can implement a generative adversarial network (GAN) for fraud detection. For example, in one aspect, the present disclosure provides a system including a creator model and an evaluator model. The creator model is to receive real transaction data corresponding to real transactions executed across a payment network, receive fraud detection rules for identifying fraudulent transactions, and generate synthesized transaction data based on the real transaction data and the fraud detection rules. The synthesized transaction data corresponds to synthesized transactions that are not actually executed across the payment network. The evaluator model is to receive the synthesized transaction data and classify at least some of the synthesized transactions as fraudulent transactions.

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