Claims

1. A method comprising: receiving a first request to transmit a first message to a first recipient device; determining to allocate the first message for exploitation; in response to determining to allocate the first message for exploitation: determining, based on a ranking of a set of routing providers, that a first routing provider is an optimal routing provider, the ranking having been determined based on a conversion rate index including individual conversion rates for each routing provider in the set of routing providers; and allocating the first message to the first routing provider for delivery to the first recipient device; receiving a second request to transmit a second message to a second recipient device; determining to allocate the second message for exploration; in response to determining to allocate the second message for exploration: identifying, based on the ranking of the set of routing providers, a set of secondary routing providers, the set of secondary routing providers not including the first routing provider; and allocating the second message to a secondary routing provider from the set of secondary routing providers for delivery to the second recipient device.

2. The method of claim 1, wherein determining that the first routing provider is the optimal routing provider comprises: determine, based on the ranking of the set of routing providers, that the first routing provider is ranked highest.

3. The method of claim 1, further comprising: receiving a third request to transmit a third message to a third recipient device; determining to allocate the third message for exploitation; and in response to determining to allocate the third message for exploitation: determining, based on an updated ranking of the set of routing providers, that a second routing provider is the optimal routing provider; and allocating the third message to the second routing provider to be delivered to the third recipient device.

4. The method of claim 1, wherein the individual conversion rates for each routing provider in the set of routing providers are upper confidence bound estimates determined based on available feedback data for each routing provider.

5. The method of claim 1, further comprising: receiving feedback data describing message delivery performance of the set of routing providers; and determining individual conversion rates for each routing provider in the set of routing providers based on the feedback data.

6. The method of claim 5, wherein the feedback data includes live feedback describing message delivery performance when transmitting messages that have been allocated to the set of routing providers, and testing feedback data describing message delivery performance when transmitting test messages using routes provided by the set of routing providers.

7. The method of claim 1, wherein determining to allocate the first message as an exploitation message is based on predetermined message allocation percentages.

8. The method of claim 1, wherein messages for exploration are divided evenly among the set of secondary routing providers.

9. The method of claim 1, wherein more messages are allocated for exploitation than for exploration.

10. A system comprising: one or more computer processors; and one or more computer-readable mediums storing instructions that, when executed by the one or more computer processors, cause the system to perform operations comprising: receiving a first request to transmit a first message to a first recipient device; determining to allocate the first message for exploitation; in response to determining to allocate the first message for exploitation: determining, based on a ranking of a set of routing providers, that a first routing provider is an optimal routing provider, the ranking having been determined based on a conversion rate index including individual conversion rates for each routing provider in the set of routing providers; and allocating the first message to the first routing provider to be delivered to the first recipient device; receiving a second request to transmit a second message to a second recipient device; determining to allocate the second message for exploration; in response to determining to allocate the second message for exploration: identifying, based on the ranking of the set of routing providers, a set of secondary routing providers, the set of secondary routing providers not including the first routing provider; and allocating the second message to a secondary routing provider from the set of secondary routing providers for delivery to the second recipient device.

11. The system of claim 10, wherein determining that the first routing provider is the optimal routing provider comprises: determine, based on the ranking of the set of routing providers, that the first routing provider is ranked highest.

12. The system of claim 10, the operations further comprising: receiving a third request to transmit a third message to a third recipient device; determining to allocate the third message for exploitation; and in response to determining to allocate the third message for exploitation: determining, based on an updated ranking of the set of routing providers, that a third routing provider is the optimal routing provider; and allocating the third message to the second routing provider to be delivered to the third recipient device.

13. The system of claim 10, wherein the individual conversion rates for each routing provider in the set of routing providers are upper confidence bound estimates determined based on available feedback data for each routing provider.

14. The system of claim 10, the operations further comprising: receiving feedback data describing message delivery performance of the set of routing providers; and determining individual conversion rates for each routing provider in the set of routing providers based on the feedback data.

15. The system of claim 14, wherein the feedback data includes live feedback describing message delivery performance when transmitting messages that have been allocated to the set of routing providers, and testing feedback data describing

message delivery performance when transmitting test messages using routes provided by the set of routing providers.

16. The system of claim 10, wherein determining to allocate the first message as an exploitation message is based on predetermined message allocation percentages.

17. A non-transitory computer-readable medium storing instructions that, when executed by one or more computer processors of one or more computing devices, cause the one or more computing devices to perform operations comprising: receiving a first request to transmit a first message to a first recipient device; determining to allocate the first message for exploitation; in response to determining to allocate the first message for exploitation: determining, based on a ranking of a set of routing providers, that a first routing provider is an optimal routing provider, the ranking having been determined based on a conversion rate index including individual conversion rates for each routing provider in the set of routing providers; and allocating the first message to the first routing provider to be delivered to the first recipient device; receiving a second request to transmit a second message to a second recipient device; determining to allocate the second message for exploration; in response to determining to allocate the second message for exploration: identifying, based on the ranking of the set of routing providers, a set of secondary routing providers, the set of secondary routing providers not including the first routing provider; and allocating the second message to a secondary routing provider from the set of secondary routing providers for delivery to the second recipient device.

18. The non-transitory computer-readable medium of claim 17, wherein determining that the first routing provider is the optimal routing provider comprises: determine, based on the ranking of the set of routing providers, that the first routing provider is ranked highest.

19. The non-transitory computer-readable medium of claim 17, the operations further comprising: receiving a third request to transmit a third message to a third recipient device; determining to allocate the third message for exploitation; and in response to determining to allocate the third message for exploitation: determining, based on an updated ranking of the set of routing providers, that a third routing provider is the optimal routing provider; and allocating the third message to the third routing provider to be delivered to the third recipient device.

20. The non-transitory computer-readable medium of claim 17, wherein determining to allocate the first message for exploitation is based on predetermined message allocation percentages.