WE CLAIM:

1. A system for determining an estimated time of arrival (ETA), comprising:

a storage device including a set of instructions; and

at least one processor configured to communicate with the storage device and to execute the set of instructions to cause the system to:

obtain a service request from a terminal;

determine a reference image relating to the service request;

obtain a trained neural network model;

determine an ETA relating to the service request based on the reference image and the trained neural network model; and

transmit the ETA to the terminal.

2. The system of claim 1, wherein to determine the reference image relating to the service request, the at least one processor is configured to execute the set of instructions to cause the system to:

obtain a first base image relating to the service request;

determine a feature image relating to the service request based on the base image;

obtain a route channel relating to the service request based on the base image and the feature image; and

determine the reference image relating to the service request based on the base image, the feature image, and the route channel.

3. The system of claim 2, wherein to obtain the first base image relating to the service request, the at least one processor is configured to execute the set of instructions to cause the system to:

obtain geographical information relating to the service request; and

determine the first base image based on the geographical information.

4. The system of claim 1, wherein the trained neural network model is generated based on a process for determining a trained neural network model, the process comprising:

obtaining a plurality of historical service orders;

obtaining a second base image relating to the plurality of historical service orders;

determining a plurality of historical feature images relating to the plurality of historical service orders based on the second base image;

determining a plurality of historical route channels relating to the plurality of historical service orders based on the second base image and the plurality of historical feature images;

determining a plurality of sample images relating to the plurality of historical service orders based on the second base image, the plurality of historical feature images, and the plurality of historical route channels; and

determining the trained neural network model based on the plurality of sample images.

5. The system of claim 4, wherein the process for generating a trained neural network model further comprises:

obtaining a plurality of actual times of arrival (ATAs) of the plurality of historical service orders;

obtaining a preliminary neural network model;

determining a plurality of sample ETAs based on the preliminary neural network model and the plurality of sample images;

determining a loss function based on the plurality of ATAs and the plurality of sample ETAs;

determining whether a value of the loss function is less than a threshold; and

designating the preliminary neural network model as the trained neural network model in response to the determination that the value of the loss function is less than the threshold.

6. The system of claim 5, wherein the process for generating a trained neural network model further comprises:

updating the preliminary neural network model in response to the determination that the value of the loss function is larger than or equal to the threshold.

7. The system of claim 5, wherein the preliminary neural network model is a Convolutional Neural Network model.

8. The system of claim 4, wherein the determining the plurality of historical feature images relating to the plurality of historical service orders includes:

determining traffic information relating to the plurality of historical service orders; and

determining the plurality of historical feature images based on the traffic information.

9. The system of claim 8, wherein the determining the plurality of historical feature images relating to the plurality of historical service orders includes:

normalizing the traffic information; and

determining the plurality of historical feature images relating to the plurality of historical service orders based on the normalized traffic information.

10. The system of claim 8, wherein the traffic information includes vehicle speed information relating to the plurality of historical service orders or traffic flow information

relating to the plurality of historical service orders.

11. The system of claim 4, wherein the determining a plurality of historical route channels relating to the plurality of historical service orders includes:

for each of the plurality of historical service orders,

determining a historical route relating to the each of the plurality of historical service orders on a historical feature image corresponding to the each of the plurality of historical service orders,

assigning a value for the historical route on the historical feature image, and

determining a historical route channel corresponding to the each of the plurality of historical service orders based on the value and the historical feature image.

12. The system of claim 11, wherein the value for the historical route on the historical feature image is -1 or 255.

13. A method for determining an estimated time of arrival (ETA), comprising:

obtaining, by a processor, a service request from a terminal;

determining, by the processor, a reference image relating to the service request;

obtaining, by the processor, a trained neural network model;

determining, by the processor, an ETA relating to the service request based on the reference image and the trained neural network model; and

transmitting, by the processor, the ETA to the terminal.

14. The method of claim 13, wherein the determining the reference image relating to the service request includes:

obtaining a first base image relating to the service request;

determining a feature image relating to the service request based on the base

image;

obtaining a route channel relating to the service request based on the base image and the feature image; and

determining the reference image relating to the service request based on the base image, the feature image, and the route channel.

15. The method of claim 14, wherein the obtaining the first base image relating to the service request includes:

obtaining geographical information relating to the service request; and

determining the first base image based on the geographical information.

16. The method of claim 13, wherein the trained neural network model is generated based on a process for determining a trained neural network model, the process comprising:

obtaining a plurality of historical service orders;

obtaining a second base image relating to the plurality of historical service orders;

determining a plurality of historical feature images relating to the plurality of historical service orders based on the second base image;

determining a plurality of historical route channels relating to the plurality of historical service orders based on the second base image and the plurality of historical feature images;

determining a plurality of sample images relating to the plurality of historical service orders based on the second base image, the plurality of historical feature images, and the plurality of historical route channels; and

determining the trained neural network model based on the plurality of sample images.

17. The method of claim 16, wherein the process for generating a trained neural network model further comprises:

obtaining a plurality of actual times of arrival (ATAs) of the plurality of historical service orders;

obtaining a preliminary neural network model;

determining a plurality of sample ETAs based on the preliminary neural network model and the plurality of sample images;

determining a loss function based on the plurality of ATAs and the plurality of sample ETAs;

determining whether a value of the loss function is less than a threshold; and

designating the preliminary neural network model as the trained neural network model in response to the determination that the value of the loss function is less than the threshold.

18. The method of claim 17, wherein the process for generating a trained neural network model further comprises:

updating the preliminary neural network model in response to the determination that the value of the loss function is larger than or equal to the threshold.

19. The method of claim 17, wherein the preliminary neural network model is a Convolutional Neural Network model.

20. The method of claim 16, wherein the determining the plurality of historical feature images relating to the plurality of historical service orders includes:

determining traffic information relating to the plurality of historical service orders; and

determining the plurality of historical feature images based on the traffic

information.

21. The method of claim 20, wherein the determining the plurality of historical feature images relating to the plurality of historical service orders includes:

normalizing the traffic information; and

determining the plurality of historical feature images relating to the plurality of historical service orders based on the normalized traffic information.

22. The method of claim 20, wherein the traffic information includes vehicle speed information relating to the plurality of historical service orders or traffic flow information relating to the plurality of historical service orders.

23. The method of claim 16, wherein the determining a plurality of historical route channels relating to the plurality of historical service orders includes:

for each of the plurality of historical service orders,

determining a historical route relating to the each of the plurality of historical service orders on a historical feature image corresponding to the each of the plurality of historical service orders,

assigning a value for the historical route on the historical feature image, and

determining a historical route channel corresponding to the each of the plurality of historical service orders based on the value and the historical feature image.

24. A non-transitory computer-readable medium including executable instructions that, when executed by at least one processor, cause the medium to effectuate a method comprising:

obtaining a service request from a terminal;

determining a reference image relating to the service request;

obtaining a trained neural network model;

determining an ETA relating to the service request based on the reference image and the trained neural network model; and

transmitting the ETA to the terminal.