Claims

What is claimed is:

1. A system comprising:

a processor; and

a non-transitory, computer-readable memory that includes instructions executable by the processor for causing the processor to:

receive a query associated with an asset of a power distribution network;

accessing data of the power distribution network that is associated with the asset, wherein the data comprises a power distribution network growth trend;

identify the power distribution network growth trend by mapping electrical meters of the power distribution network;

applying a forecasting model to the query and the data of the power distribution network that is associated with the asset to generate an asset inventory or maintenance forecast; and

controlling an ordering operation of the asset or a maintenance scheduling of the asset using the asset inventory or maintenance forecast.

2. The system of claim 1, wherein the instructions are further executable by the processor for causing the processor to:

train the forecasting model to generate the asset inventory or maintenance forecast using training vectors of ground-truth data of a plurality of additional assets of the power distribution network, wherein the forecasting model comprises a machine-learning model.

3. The system of claim 2, wherein the instructions to train the forecasting model are further executable by the processor to:

train the forecasting model to generate the asset inventory or maintenance forecast using additional training vectors of ground-truth data of a plurality of additional assets of an additional power distribution network.

4. The system of claim 1, wherein the instructions are further executable by the processor for causing the processor to:

select the forecasting model from a set of forecasting models in response to evaluating an accuracy of the forecasting model in solving the asset inventory or maintenance question of the query.

5. The system of claim 1, wherein controlling the ordering operation of the asset comprises redistributing asset inventories based on the power distribution network growth trend.

6. The system of claim 1, wherein the query comprises an asset inventory or maintenance question associated with an asset of a power distribution network .

7. The system of claim 1, wherein the instructions are further executable by the processor for causing the processor to:

identify asset environments by mapping assets of the power distribution network, wherein controlling the ordering operation or maintenance scheduling of the asset is based on the asset environments identified by mapping the assets of the power distribution network.

8. A non-transitory, computer-readable medium comprising instructions that are executable by a processor for causing the processor to perform operations comprising:

receiving a query comprising an asset inventory or maintenance question of an asset of a power distribution network;

accessing data of the power distribution network that is associated with the asset, wherein the data comprises a power distribution network growth trend;

identifying the power distribution network growth trend by mapping electrical meters of the power distribution network;

applying a forecasting model to the query and the data of the power distribution network that is associated with the asset to generate an asset inventory or maintenance forecast; and

controlling an ordering operation of the asset or a maintenance scheduling of the asset using the asset inventory or maintenance forecast.

9. The non-transitory, computer-readable medium of claim 8, wherein the operations further include:

training the forecasting model to generate the asset inventory or maintenance forecast using training vectors of ground-truth data of a plurality of additional assets of the power distribution network, wherein the forecasting model comprises a machine-learning model.

10. The non-transitory, computer-readable medium of claim 8, wherein the operations further include:

selecting the forecasting model from a set of forecasting models in response to evaluating an accuracy of the forecasting model in solving the asset inventory or maintenance question of the query.

11. The non-transitory, computer-readable medium of claim 8, wherein the data of the power distribution network that is associated with the asset comprises an indication of historical usable lifetimes of similar assets to the asset, device loads of the asset, information gathered from sensors of the power distribution network, or any combination thereof.

12. The non-transitory, computer-readable medium of claim 8, wherein the operations further include:

identifying asset environments by mapping assets of the power distribution network, wherein controlling the ordering operation or maintenance scheduling of the asset is based on the asset environments identified by mapping the assets of the power distribution network.

13. A computer-implemented method comprising:

receiving, at a computing device, a query comprising an asset inventory or maintenance question of an asset of a power distribution network;

accessing, by the computing device, data of the power distribution network that is associated with the asset, wherein the data comprises a power distribution network growth trend;

identifying the power distribution network growth trend by mapping electrical meters of the power distribution network; and

applying, by the computing device, a forecasting model to the query and the data of the power distribution network that is associated with the asset to generate an asset inventory or maintenance forecast.

14. The computer-implemented method of claim 15, further comprising:

training, by the computing device, the forecasting model to generate the asset inventory or maintenance forecast using training vectors of ground-truth data of a plurality of additional assets of the power distribution network, wherein the forecasting model comprises a machine-learning model.

15. The computer-implemented method of claim 14, wherein training the forecasting model further comprises:

training, by the computing device, the forecasting model to generate the asset inventory or maintenance forecast using additional training vectors of ground-truth data of a plurality of additional assets of an additional power distribution network.

16. The computer-implemented method of claim 13, further comprising:

controlling, by the computing device, an ordering operation of the asset or a maintenance scheduling of the asset using the asset inventory or maintenance forecast.

17. The computer-implemented method of claim 15, further comprising:

identifying, by the computing device, asset environments by mapping assets of the power distribution network, wherein the data of the power distribution network comprises the asset environments.