Claims

[Claim 1]

An information processing apparatus comprising:

a data generation section that generates estimated data for second measurement data measured by a second device based on first measurement data measured by a first device that measures information about a mobility, the second device being different from the first device and measuring information about the mobility; and

a model generation section that generates a model for calculating quantities related to the mobility using the second device based on the estimated data,

wherein the data generation section performs generation so that the estimated data for the second measurement data is mathematically subsumed by the first measurement data.

[Claim 2]

The information processing apparatus of claim 1,

wherein the data generation section generates at least a portion of the estimated data for the second measurement data by extracting a portion of the first measurement data based on a predetermined condition, and

the predetermined condition is at least one of a time-related condition, a distance-related condition, and an azimuth-related condition.

[Claim 3]

The information processing apparatus of claim 1, further comprising:

a function generation section that generates a function that approximates the first measurement data based on the first measurement data,

wherein the data generation section generates at least a portion of the estimated data for the second measurement data based on the generated function and arguments based on a predetermined condition.

[Claim 4]

The information processing apparatus of claim 3, wherein the predetermined condition is at least one of a time-related condition, a distance-related condition, and an azimuth-related condition.

[Claim 5]

The information processing apparatus of any of claims 1 to 4, wherein the model generation section generates the model by machine learning using at least the estimated data as training data.

[Claim 6]

The information processing apparatus of claim 5, wherein the model generation section generates the model by machine learning using at least the estimated data and the second measurement data as training data.

[Claim 7]

The information processing apparatus of any of claims 1 to 4, further comprising a calculation section that calculates the quantities based on the second measurement data and the generated model.

[Claim 8]

The information processing apparatus of any of claims 1 to 4, wherein

the first device and the second device measure travel information,

the quantities are driving score related to an operation of the mobility for which the travel information is measured, and

the model is a model for calculating the driving score based on the second measurement data.

[Claim 9]

The information processing apparatus of claim 8, wherein the model generation section generates a model for calculating the driving score by machine learning using the estimated data and information based on the first measurement data as training data.

[Claim 10]

The information processing apparatus of any of claims 1 to 4, wherein

the second measurement data is transmitted from the second device to a roadside unit at a predetermined location,

the information processing apparatus further comprises a determination section that determines whether or not to generate the estimated data based on the first measurement data and location information of the roadside unit.

[Claim 11]

The information processing apparatus of any of claims 1 to 4, wherein

the second measurement data is transmitted from the second device to a roadside unit at a predetermined location,

the information processing apparatus further comprises a determination section that determines whether or not to use the estimated data that are generated based on the first measurement data and location information of the roadside unit.

[Claim 12]

The information processing apparatus of any of claims 1 to 4, wherein

the second measurement data is transmitted from the second device to a roadside unit at a predetermined location,

the information processing apparatus further comprises a determination section that determines a measurement period of the first measurement data to be used for generating the estimated data based on the first measurement data and location information of the roadside unit.

[Claim 13]

The information processing apparatus of claim 1, wherein the data generation section generates at least a portion of the estimated second measurement data based on the following formulae:

D2(1) = D1(1),

D2(k) = D1g(D2(k-1)),

where:

k is a natural number greater than or equal to 2,

D1 represents data among the first measurement data at an argument value indicating an order value from a reference point when the first measurement data is arranged in a chronological order,

D2 represents data among the estimated second measurement data at an argument value indicating an order value from the reference point when the estimated second measurement data is arranged in a chronological order, and

D1g outputs data from the first measurement data that satisfies at least one of a time-related condition, a distance-related condition, and an azimuth-related condition corresponding to the argument value.

[Claim 14]

An information processing method including:

generating estimated data for second measurement data measured by a second device based on first measurement data measured by a first device that measures information about a mobility, the second device being different from the first device and measuring information about the mobility,

generating a model for calculating quantities related to the mobility using the second device based on the estimated data,

wherein

the generating the estimated data includes generating the estimated data of the second measurement data so that the estimated data is mathematically subsumed by the first measurement data.

[Claim 15]

A program for causing a computer to execute:

generating estimated data for second measurement data measured by a second device based on first measurement data measured by a first device that measures information about a mobility, the second device being different from the first device and measuring information about the mobility,

generating a model for calculating quantities related to the mobility using the second device based on the estimated data,

wherein

the generating the estimated data includes generating the estimated data for the second measurement data so that the estimated data is mathematically subsumed by the first measurement data.

[Claim 16]

A trained model for enabling a computer to output quantities related to a mobility using a second device, based on information regarding the mobility obtained by the second device, wherein:

the model is trained based on estimated data of second measurement data measured by the second device, the estimated data being generated based on first measurement data measured by a first device different from the second device, and

the estimated data is generated so that the estimated data of the second measurement data is mathematically subsumed by the first measurement data.

[Claim 17]

An information processing apparatus comprising:

an existing roadside unit location information obtaining section that obtains existing roadside unit location information that is location information of an existing roadside unit that has already been installed and collects information about travelling of a mobility according to an ETC2.0 compatible method,

a first installation candidate facility location information obtaining section that obtains first installation candidate facility location information which is location information of at least one facility where the roadside unit is able to be newly installed,

a travel information obtaining section that obtains travel information that is collected based on a method different from the ETC2.0 compatible method and that includes at least information of a location of the mobility, and

a calculation section that calculates first collection degree information that is regarding a collection degree of when it is assumed that the travel information is collected by the roadside unit corresponding to the existing roadside unit location information and the first installation candidate facility location information according to the ETC2.0 compatible method.

[Claim 18]

An information processing apparatus comprising:

a mobility location information obtaining section that obtains a mobility location information from a first device installed on a mobility based on a method different from an ETC2.0 compatible method,

a density information obtaining section that obtains density information of the mobility location information based on the mobility location information that is obtained, and

an identification section that identifies, based on the density information that is obtained, a location for installing a new roadside unit that acquires travel information according to the ETC2.0 compatible method.