{Claims}

1. A material property prediction system that is a system to carry out prediction of material properties by processing task data including a plurality of records, each including a material composition, an experimental condition, and a material property, the system comprising a material property prediction presenting unit, a cross-task compatible feature value generating unit, and a material property predicting unit,

wherein the material property prediction presenting unit accepts a specification of first task data that includes a record in which a material property is unknown and is to be a target of material property prediction through a first predictive model;

the cross-task compatible feature value generating unit predicts feature values from material compositions in the first task data by using a second predictive model;

the material property predicting unit generates the first predictive model by using the material compositions, the experimental condition, the feature values, and the known material property in the first task data; and

the material property predicting unit inputs the material composition, the experimental condition, and the feature value in a record in which the material property is

unknown in the first task data to the first predictive model and predicts the unknown material property.

2. The material property prediction system according to claim 1,

wherein the task data can be retrieved from a material database;

the material database stores a plurality of tasks data pieces and data on the experimental condition and the material property includes data in which different conditions and properties are defined across the tasks data pieces;

the material property prediction presenting unit accepts a specification of second task data different from the first task data;

the cross-task compatible feature value generating unit retrieves the second task data from the material database and generates the second predictive model by using material compositions and a known material property in the second task data; and

the cross-task compatible feature value generating unit predicts feature values based on a material property that is defined in the second data from material compositions in the first task data.

3. The material property prediction system according to claim 2, including the material database in which the following are stored:

the first task data including a plurality of records, each including a material composition, a first experimental condition, and a first material property; and

the second task data including a plurality of records, each storing a material composition and a second experimental condition defined different from the first experimental condition.

4. The material property prediction system according to claim 2, including the material database in which the following are stored:

the first task data including a plurality of records, each including a material composition, a first experimental condition, and a first material property; and

the second task data including a plurality of records, each storing a material composition and a second material property defined different from the first material property.

5. The material property prediction system according to claim 2, provided with a material property predictive model database storing at least one of the first predictive model and the second predictive model.

6. The material property prediction system according to claim 5, wherein the second predictive model is managed in relation to the second task data.

7. The material property prediction system according to claim 1, wherein the first predictive model is configured using a random forest.

8. A material property prediction method that is a method for predicting material properties by an information processing device including an input device, a storage device, and a processor,

wherein, when generating a first predictive model for predicting a first material property from first data including first feature values, the method executes:

a first step of preparing, from the first feature values, a second predictive model that is to predict a second material property defined different from the first material property;

a second step of predicting the second material property by applying the first data to the second predictive model; and

a third step of generating the first predictive model, taking the first feature values as a first explanatory

variable, the second material property as a second explanatory variable, and the first material property as an objective variable.

9. The material property prediction method according to claim 8, wherein the method executes a fourth step of predicting the first material property by using the first predictive model and the first data.

10. The material property prediction method according to claim 8, wherein the first feature values are the feature values based on material structural formulas.

11. The material property prediction method according to claim 8, wherein the second predictive model is a model learned using second data including the first feature values and the second material property.

12. The material property prediction method according to claim 11, using a material database on a per-task basis,

wherein first task data regarding a first task and second task data regarding a second task are stored in the material database;

the first task data includes a plurality of records, each including material structure related information and

the first material property;

the second task data includes a plurality of records, each including material structure related information and the second material property;

the method generates the first feature values from the material structure related information;

the method generates the first data from the first task data; and

the method generates the second data from the second task data.

13. The material property prediction method according to claim 12, wherein the first task data further includes first information about material manufacturing conditions.

14. The material property prediction method according to claim 13, wherein the second task data further includes second information defined different from the first information about material manufacturing conditions.

15. The material property prediction method according to claim 8, wherein a random forest is used as the first predictive model.