Fig. 10 is a block diagram illustrating an example of an end point detector according to one embodiment;

Fig. 11 is a diagram illustrating a usage example of data used for learning, algorithms, and a learned model;

Fig. 12 is a flowchart for illustrating an example of learning processing in a machine learning apparatus in Fig. 10;

Fig. 13 is a diagram illustrating a configuration example of a neural network;

Figs. 14A and 14B are diagrams for illustrating an example of a recurrent neural network;

Figs. 15A, 15B and 15C are graphs showing an example of normal change in film thickness;

Fig. 16 is a graph showing an example of abnormal change in film thickness;

Fig. 17 is a diagram illustrating overall control by a control section;

Fig. 18 is a diagram illustrating a configuration of another embodiment;

Fig. 19 is a diagram illustrating a modification of the embodiment in Fig. 18;

Fig. 20 is a block diagram illustrating control of a first polishing unit using AI;

Fig. 21 is a block diagram illustrating control of a first polishing unit using AI; and

Fig. 22 is a block diagram illustrating control of a first polishing unit using AI.

DESCRIPTION OF EMBODIMENTS

[0022] Hereinafter, embodiments of the present invention will be described with reference to drawings. Note that in each embodiment described hereinafter, identical or corresponding members are given the same symbols, and duplicative description may be omitted. The features shown in each embodiment may be applied to the other embodiments as long as these features do not contradict one another.

[0023] Fig. 1 is a plan view illustrating an overall configuration of a substrate processing apparatus according to one embodiment of the present invention. As illustrated in Fig. 1, the substrate processing apparatus includes a casing, that is, a housing 61 having a substantially rectangular shape in the present embodiment. The housing 61 includes a side wall 700. The inside of the housing 61 is partitioned into a load/unload section 62, a